

Defining Cyberspace (Finding Real Virtue in the Place of Virtual Reality)

Thomas C. Folsom*

The law has neither defined cyberspace nor its values. As a result, the attempt to apply legal rules of “ordinary” space to cyberspace fails to address either the ordinary or the extraordinary features of the new space. This Article proposes that cyberspace be defined as an embodied switched network for moving information traffic, further characterized by degrees of access, navigation, information-activity, augmentation (and trust). Legal conflicts, whether sounding in contract, trademark, copyright, personal jurisdiction, choice of law, or some other basis, occasionally occur in an objective cyberspace whose values can be sufficiently operationalized for legal analysis. If cyberspace were so defined, the law could better respond to new technological uses.

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*“A year here and he still dreamed of cyberspace, hope fading nightly.”*¹

I. INTRODUCTION

The Internet is a gateway to cyberspace, but cyberspace itself is characterized by varying degrees of access, navigation, information-activity, augmentation (and trust)—these are the values of cyberspace.² Legal conflicts occur in cyberspace and implicate the “ordinary” laws of contract, trademark, copyright, personal jurisdiction, and choice of law, among others. This Article proposes to define cyberspace. Once cyberspace is defined, then legal problems in several fields can be better handled by adding a new factor to the otherwise ordinary analysis in whichever field is implicated: the nature and place of use. The new factor directs a decisionmaker to consider both the general nature and values of cyberspace (the place of use), and the specific kind of conflict that is occurring among the users there (the nature of use) as highly relevant factors in assessing the applicability of familiar legal principles in space.

This Article will sketch the usefulness of its approach by drawing a rough outline of how it might be tailored to one specific legal field, trademark law. There is currently some difficulty in reconciling ordinary principles of trademark law to the problems of marks in space. This is because designations can be used in cyberspace somewhat unconventionally as invisible or attenuated addresses, magnets and/or marks (and also as roadblocks or detours), and can be so used by invited or uninvited, harmless or predatory, value-adding or free-riding surfers and mappers, trappers and spoofers, spoilers and arbitrageurs, consumers and competitors (and persons who are simultaneously or sequentially acting in more than one capacity). These invisible and attenuated uses are the typical kinds of mark-type conflicts among the characteristic users of cyberspace. The problem is that trademark law is not well suited for dealing with invisible and attenuated uses of trademarked expressions. The difficulty is increased by the dramatically different searching and trading strategies employed by the different users of cyberspace, and by the current trademark law’s inability to distinguish among them.

As this Article explains the benefits of defining cyberspace and its values in the specific context of mark-type disputes in space, so this

1. WILLIAM GIBSON, *NEUROMANCER* 4 (1984).

2. This Article derives cyberspace values from the distinguishing characteristics of cyberspace itself—from its architecture (design) and from its use (function). “Trust” differs from the other characteristics and so is set off by parentheses. See *infra* Part II.B-C.

Article also suggests that a similar approach will yield similar benefits in other fields.

A. *Preliminary Note on Law and Technology*

This Article concerns technological matters, but it is primarily about law, not technology.³ Therefore, it does not start with the obligatory footnote common to “tech” articles.⁴ To make the conversion from technology to law, this Article aims to give a plain account of the readily observable and distinctive features of cyberspace. Cyberspace is an embodied switched network for moving information traffic further characterized by varying degrees of access, navigation, information-activity, augmentation (and trust), and these characteristics can be taken into account sufficiently for drawing legal conclusions.

Once cyberspace and its typical conflicts among characteristic users are translated out of the language of technology and into the more familiar concepts with which lawyers more routinely deal,⁵ legal conflicts in cyberspace will more nearly resemble the kinds of conflicts legal decisionmakers are well adapted to handle, have handled in the past, and can probably continue to handle in the future despite the new technology. At the same time, the proposed solution is robust enough and sufficiently self-modifying not only to recognize, but also to make necessary adjustments to take into account those cyber-differences that really make a difference, without requiring the creation of new rules for each new technological case. The cases should actually become rather

3. Is it not refreshing that an article on, say, railroad rate regulation need not begin with an obligatory footnote explaining what a railroad is? If it were otherwise, such an article might begin: a *railroad* is a network of interconnected paired iron rails, with a switching system to direct the flow of “trains” to predetermined locations. Or in an article on buggy whips: a *buggy whip* is a handheld controller used to encourage the application of “work” by an energy source coupled to a movable device. Will it not be nice when an article that touches on computer-related technology can be similarly liberated from the obligatory footnote (“a ‘bit’ is part of a ‘byte’ which is part of a binary string”)? See discussion *infra* note 4.

To be sure, and as in any subject, there are some necessary definitions and distinctions that will need to be made, but in this Article they are deliberately taken from widely available sources written for a general readership, are not unusual or arcane, and do not require special training.

4. A “bit” is part of a “byte,” which is part of a binary string. See discussion *supra* note 3 (repeating recursively until the point is taken).

5. There are readily accessible sources sufficient to explain what is happening in cyberspace in adequate detail for conceptual understanding of the technologies. *E.g.*, MARGARET RADIN, JOHN ROTHCHILD & GREGORY SILVERMAN, INTERNET COMMERCE: THE EMERGING LEGAL FRAMEWORK (2002). Because the reader may now rely upon such sources there is no longer any need to burden an article such as this with unnecessarily repetitious definitions and explanations. It is possible now to suggest improvements to an existing body of work that lawyers are well equipped to understand.

unremarkable, as the newly proposed heuristic becomes powerfully able to handle them.⁶

B. Preliminary Note on Modern Moral Realism

This Article is based on conceptual, or modern, moral realism. One concern of conceptual moral realism is that the direct statement of fundamental principles and definitions is too often neglected. One set of such principles has to do with the sources of law. Law must derive from (1) coercive regulation (some existing rule, force, or fiat), which can be characterized as positive law; (2) reason and observation, which have been popularized by any of several schools including law and economics, natural law, and others; and/or (3) historical norms, which was once a dominant view of Anglo-American and of German legal commentators.⁷

This Article does not assume it is sufficient or even desirable simply to make up some law that might seem merely elegant or persuasive. Instead, this Article is voluntarily constrained by the facts: there is an existing positive law (and plenty of it, as well as related branches of law, private ordering, and social norms), there is a reasonable basis for that law (all of it, at least in context), and there is an historical, normative development of the law that influences the scope of change that is reasonably possible.

Accordingly, this Article is not just equal parts bad poetry and ersatz policy. It is not directed solely or even primarily to technophiles or “scholars.” Nor is it intended to provoke disinterest from “practitioners.” It is, instead, intended to change the law, realistically, and by providing a recognizably legal-style solution to the problem of cyberspace that appeals to the good sense of lawyers who can use it, judges who can understand and apply it, and ultimately to the public at large, who are the final consumers of the rule of law.

6. Which being translated simply means that the proposed solution provides a rule of thumb (heuristic) that makes sense and is self-modifying; and that the cases, once they are opened up to ordinary discussion based on what is happening rather than the specific technological apparatus or embodiment by which they happen, become the ordinary grist of the legal mill. Judges and other lawyers are generally equipped to be good at applying judgment to matters of common knowledge, and are much less equipped to be good at playing the part of an electrical engineer.

7. See Thomas C. Folsom, *The Restatement of the Obvious: Or, What's Right Got To Do with It? Reflections on a Business Ethic for Our Times*, 16 REGENT U.L. REV. 301, 325 (2004).

II. CYBERSPACE AND THE INTERNET

Cyberspace is defined in this Article as an embodied switched network for moving information traffic, further characterized by varying degrees of access, navigation, information-activity, augmentation (and trust). Using the example of trademark law's struggle to regulate invisible and attenuated uses in cyberspace, Part IV of this Article will identify the typical trademark-type conflicts among the average users in cyberspace and Part V will sketch the outline of a solution to the problem of marks in space.

The *Internet* is defined in this Article as a tool that creates a gateway to cyberspace. The tool, or gateway, is itself an embodied switched network for moving information. The Internet is the prime example of such a gateway. The phone system is another. The activity set constituting cyberspace is further characterized by access, navigation, information-activity, and augmentation activities that are enabled by the gateway. Combined, the gateway and the activity set occurring on the other side of the gateway express an objective cyberspace with values that can be derived from its purpose.

The *nature and place of use* is the bridge that connects cyberspace to ordinary principles of law. In order to consider the nature and place of use as a factor in trademark-type disputes (or contract, copyright, jurisdiction or choice of law-type conflicts) in cyberspace, it is necessary to know the degree to which any conflict is actually in cyberspace, or merely involves the Internet or some other gateway in only an incidental fashion. The heuristic model is easy enough: the first question is whether the conflict is even on the Internet (or a comparable switched network, like the phone system) at all. If not, then doctrinal creep⁸ is wholly avoided: the new factor, nature and place of use, is simply inapplicable.

But if the conflict occurs on an embodied switched network for moving information traffic, the interesting work may begin. Assuming there is a conflict arising out of some transaction touching the Internet or other gateway technology, the second question is: to what degree is that conflict actually "in" cyberspace. If the characteristic values that define cyberspace are not implicated, or are implicated only slightly, there is

8. "Doctrinal Creep" connotes the development of law for an extreme case, and then the almost accidental reimportation of such law back to the ordinary case. See Mark A. Lemley, *The Modern Lanham Act and the Death of Common Sense*, 108 YALE L.J. 1687, 1697-98, 1701 (1999) (discussing "doctrinal creep" in the specific context of trademark law, including "cybersquatting": "we sometimes seem to be making trademark law for the extreme case, but we then apply that law to a large number of run-of-the-mill trademarks").

little reason to develop any special treatment—if no cyberspace value is being implicated by the offending conduct, there is no reason to privilege (or de-privilege) the conduct in order to protect cyberspace values.

Assuming, finally, the conduct is actually “in” cyberspace, the third question is: what is the law supposed to do about it? It is fair to ask how, exactly, the law might support cyberspace values, before rushing in to do so. By so doing, the law will be more likely purposefully to preserve rather than accidentally to destroy the good of cyberspace. At the same time, the law can also avoid disfiguring or contorting itself as it strives to adapt to cyberspace. The following sections will take up the three questions just posed.

A. *The Internet as a Gateway to Cyberspace*

The first heuristic inquiry is this: Is there an embodied switched network for moving information, and does the legal conflict occur there? If not, of course, there is no reason to go any further; but if so, it still needs to be recognized that this is only a gateway to cyberspace. The paradigmatic example of an embodied switched network for moving information traffic is the Internet. The Internet is well known and is commonly defined in the cases.⁹ The Internet, as one well-written glossary puts it, “consists of physical connections among computers in more than 100 countries and a set of protocols that allows those computers to communicate with one another.”¹⁰ It is a “global network of computer networks” that currently uses the Transmission Control Protocol/Internet Protocol (TCP/IP) to communicate.¹¹ The Internet developed (or evolved) from NSFnet, which in turn developed (or evolved) from ARPAnet, and its communications backbones are currently the responsibility of several large commercial Internet service providers (ISPs) to which others link: “Regional service providers link to

9. For one such definition, see *Stomp, Inc. v. NeatO L.L.C.*, 61 F. Supp. 2d 1074, 1075 n.1 (C.D. Cal. 1999):

Although familiarity with the Internet is common, a brief explanation is appropriate for the understanding of this case. The Internet is a giant world-wide network which connects innumerable smaller groups of linked computer networks, and is thus described as a “network of networks.” It had its beginnings in 1969 when the United States military established the ARPAnet, a high speed, nation-wide network of military mainframe computers, and has since expanded into the largely private network that exists today.

10. RADIN ET AL., *supra* note 5, at 1240-41 (defining “Internet”). The value of the glossary of Professor Margaret Radin and her coauthors is enhanced by the presence of appendices in the same book providing additional background on the domain name system, computer networking, and the Internet.

11. *Id.* at 1210-11, 1240 (Computer Networking and the Internet).

these backbones, and smaller ISPs link to the regional providers.”¹² Thus, the Internet can also be defined as “the infrastructure over which several popular network services are run, including the World Wide Web and electronic mail.”¹³

Generalizing, the Internet is an embodied switched network for moving information. A *network* has nodes and paths that connect the nodes to traffic between and among them.¹⁴ A *switched* network opens and closes paths by operation of gates, or by operation of multiplexers or splitters that redirect traffic.¹⁵ An *embodied switched* network is one whose nodes and paths are embodied in a tangible medium of expression¹⁶ from which the nodes and paths can be perceived or reproduced or along which a tangible thing can move as an element of traffic.¹⁷ An embodied switched network for moving *information* is one whose traffic is not cargo, boxes, crates, containers, or passengers

12. *Id.* at 1241.

13. *Id.* The “World Wide Web” (Web) may be defined as the collection of electronic documents that is maintained on computer servers throughout the world, and that may be accessed via the Internet using [a Web protocol, currently HTTP] together with other materials that are linked to those documents. The documents that make up the Web are in the form of web pages, consisting of text with formatting information provided by HTML codes, that are arranged into websites, and connected to one another through hyperlinks. A web page may also link to electronic documents written in non-HTML formats . . . and to graphics, audio, and video files.

Id. at 1250. “The Web is not the same as the Internet: the Internet is a network of computers that communicate [with one another] . . . while the Web consists of information that travels over the Internet. And the Web is not the only information [that does so].” *Id.*

14. See TechTarget/SearchNetworking, Networking Glossary, http://searchnetworking.techtarget.com/gDefinition/0,,294236_gci212644,00.html (last visited Jan. 17, 2007) (defining a “network” as “a series of points or nodes interconnected by communication paths”); *id.*, http://searchnetworking.techtarget.com/gDefinition/0,,sid7_gci212655,00.html (last visited Jan. 17, 2007) (defining “node” as “[i]n a network, a node is a connection point, either a redistribution point or an end point . . . [i]n general, a node has programmed or engineered capability to recognize and process or forward transmissions to other nodes”).

15. See TechTarget/SearchNetworking, Networking Glossary, http://searchnetworking.techtarget.com/gDefinition/0,,sid7_gci213070.html (last visited Jan. 17, 2007). This glossary defines “switch” as:

In a telecommunications network . . . a device that channels incoming data from any of multiple input ports to the specific output port that will take the data toward its intended destination. . . . In a wide area packet-switched network such as the Internet, a switch determines . . . which output port to use for the next part of its trip to the intended destination.

Id.

16. Cf. 17 U.S.C. § 102 (2000) (stating that copyright subsists in original works of authorship “fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device”).

17. As contrasted with a disembodied network, which might, conceivably, be what is meant by referring to a series of conversations among friends or accomplices as “networking.”

moving from place to place, but is primarily information: data intended to be perceived, reproduced, communicated, or otherwise understood by human beings or their electronic agents.

Some nonqualifying examples may be helpful. The railroad system is an embodied switched network. It is not just the rails, track, trains, passengers, and cargo that constitute a railroad,¹⁸ but it is the time-synchronized switching system for moving trains, passengers, and cargo over the rails by means of the tracks, and delivering them to a destination.¹⁹ A railroad is an embodied switched network, but it traffics primarily in cargo and passengers, not information. It is neither cyberspace nor a gateway to cyberspace.

Certain other networks are nonqualifying because they are not embodied. A network of friends or a network of ideas are networks that are more virtual than real. Other networks are nonqualifying because they are not switched. The interstate highway system and local roads are nonqualifying networks that connect one place to another but they are not switched and they are not primarily about moving information. These systems might be more or less alike but they are not the same as the systems that actually reach the threshold of cyberspace. These are not gateways to cyberspace.

18. That is, a definition of a railroad that goes no further than a physical inventory of the particular things that are involved will fail to catch the switched network characteristics that make it useful for moving traffic along paths from node to node.

19. Cf. STEVEN LEVY, HACKERS: HEROES OF THE COMPUTER REVOLUTION 17-38 (1984) (discussing MIT's "Tech Model Railroad Club"). In 1958-1959, various members of a model railroad club at the Massachusetts Institute of Technology, because of their interest in complex model train set switching systems, were in a position to transfer their attention to the massive TX-0 computer that had arrived on campus. As to the model railroad, there was a clubroom filled with a huge train layout "with a little town, a little industrial area, a tiny working trolley line," and so on, but with "a lot of trains and tracks" that were "meticulously crafted to resemble their full scale counterparts." *Id.* at 21. But the "revelation" was the switching system. *Id.* When Peter Samson, one of the leaders-to-be of the computer revolution, looked underneath the boards that held the layout, what he saw was

a more massive matrix of wires and relays and crossbar switches than [he] had ever dreamed existed. There were neat regimental lines of switches, and aching regular rows of dull bronze relays, and a long, rambling tangle of red, blue, and yellow wires—twisting and twirling like a rainbow-colored explosion of Einstein's hair. It was an incredibly complicated system, and Peter Samson vowed to find out how it worked.

Id. There was, of course, an IBM 704 at MIT, but it was protected by a priesthood who were in charge of the punched cards, and who intervened between user and machine—in short, it was useless to a hacker. But, for the railroad hackers at MIT, there was also one of the first transistor-run computers in the world and one which had recently been "loaned" to MIT. The TX-0 "did not use cards"—you could write assembly language code and get feedback while sitting there and writing code. It was to the TX-0 that the railroaders turned. *Id.* at 17-38.

In addition to the Internet, one other qualifying gateway system is readily identifiable. The phone system, likewise, is an embodied switched network.²⁰ It is not just a collection of telephones wires, jacks, cables, operators, and callers; but it is a time-synchronized switching system that routes messages through a grid by way of a switching system for ordering the traffic flow. The traffic is information. Because both the Internet and the phone system are embodied, they are both objective (not virtual) networks in the sense that anyone with access can share in an objective (not virtual) experience there.

Thus, the data matrix of the Internet is the current paradigmatic case of an embodied switched network for moving information at the threshold of cyberspace. The phone system also qualifies as an embodied switched network for moving information traffic into cyberspace. There will almost certainly be others.²¹ But cyberspace itself is not dependent on the machines or virtual machines that constitute “nodes,” nor upon the lines or data transmission channels that constitute “paths,” nor upon the particular kind of information that is the “traffic” from node to node. Cyberspace is not the same thing as either the Internet or the phone system. Those things are merely the gateway, merely the tools taking someone into cyberspace, but it takes a characteristic set of activities in combination with the tools to implicate any values in cyberspace.

B. Cyberspace as an Activity Set

As defined by this Article, cyberspace requires a gateway tool like the Internet, but cyberspace is itself defined by a characteristic set of activities that are enabled across the threshold. This Article asserts that those characteristic activities comprise access, navigation, information-

20. The phone system is a switched network that connects phones that “plug in” by way of an associative index. *Cf. id.* at 50-53 (extending the line of development from hacking the switched railroad at MIT’s “Tech Model Railroad Club” to hacking the phone system from MIT by reverse engineering the phone switching system just as they had reverse engineered the hard wires under the model railroad table—all for the sake of learning how to navigate the system). *See also* Interview by Dan Josefsson with William Gibson in Stockholm, Swed. (Nov. 23, 1994), <http://www.josefsson.net/Gibson> (indicating the person who coined the term “cyberspace” includes the “place where a long distance telephone call takes place”).

21. “Wi-Fi” (from “wireless fidelity”) is a likely candidate for inclusion. The term is not just a certification mark of the Wi-Fi Alliance. *See* Wi-Fi Alliance Home Page, <http://www.wi-fi.org> (last visited Jan. 17, 2007). Wi-Fi comprises a robustly distributed, fault-tolerant, “mesh”-networking infrastructure that allows for quick negotiation of new connections with devices enabled to connect. *See* Wikipedia, *WiFi*, <http://en.wikipedia.org/wiki/Wi-Fi> (as of Jan. 10, 2007, 15:00 GMT); *see also* Benjamin D. Kern, Why Not Wi-Fi? Legal Responses to the Growth of Public Wireless Network, Address at the 18th Annual CLE Seminar of the Intellectual Property Section of the Virginia State Bar 3 (Oct. 6-7, 2006) (transcript on file with author).

activity, augmentation, and trust. While, according to this Article, cyberspace is associated with the Internet and with the phone system as gateways through which cyberspace may be entered, cyberspace does not include everything. As stated previously, it does not include all physical networks,²² nor does it include nonphysical, virtual networks or virtual realities.²³ Instead, it is much more helpful to consider the Internet as a gateway, and cyberspace as the set of characteristic activities that occur across the threshold on the other side of the gate.

Why should there be a separate definition of cyberspace, apart from the Internet? The answer is suggested by Professor Lessig who observed “*the Internet has no inherent nature, but rather becomes what we make of it.*”²⁴ The Internet itself is nothing but a tool and it is no more than a gateway. It is interesting only because of what the tool can do and only because of what can happen on the other side of the gate. And while the Internet can do a lot of things, some of them are rather mundane and much like anything that happens anywhere else in ordinary space, in face-to-face conversation, or by letters dropped in the ordinary mail, or by purchases made in an ordinary store.²⁵

22. It does not include, for example, railroads or highways, the electrical power transmission grids, the sewer and water systems, the airlines, the check clearing system, electronic payment systems, or even any person’s “network” of friends. Each of the foregoing does have one or more characteristics of cyberspace, and so each might have some interesting parallels to it, but none of them have all of the distinctive characteristics of cyberspace.

23. Just because certain dramatic or imaginative literature requires a “willing suspension of disbelief,” and so might be considered to share to some extent in the nature of a “consensual hallucination”—this does not make it cyberspace. See SAMUEL COLERIDGE, *BIOGRAPHIA LITERARIA* 169 (George Watson ed., J.M. Dent & Sons, Ltd., 1965) (1817) (describing Coleridge’s planned contribution to Wordsworth’s *Lyrical Ballads* of poems, such as *The Rime of the Ancient Mariner*, and asserting that they would have to carry a semblance of truth sufficient to procure for “these shadows of imagination that willing suspension of disbelief for the moment, which constitutes poetic faith”). Drama, games, conversations, and any number of social interactions might partake to some extent in a shared object of thought or imagination, but they do not become part of cyberspace solely for that reason. While possessing, at least in part, this one feature commonly associated with cyberspace, they lack the other powers that are characteristic of cyberspace.

24. RADIN ET AL., *supra* note 5, at 20 (characterizing an argument made in LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* 6 (1999) (emphasis added)).

25. See Lee Gomes, *Boomtown: Hot Field of Cyberlaw Is So Much Hokum, Some Skeptics Argue*, WALL ST. J., July 1, 2002, at B1.

Is there really a cyberspace full of “cybercitizens” who need only be accountable to their own “cyberlaws”? . . . Law involving the online world is hot right now. Law schools trying to stay current have courses in it. . . . [But some skeptics] are deeply troubled by just about everything about this trend. . . . [The skeptics argue] something happening online shouldn’t be treated any differently by the law than if it occurred on Main Street.

Id. Thoughtful legal commentators argue to the same effect: “The steam engine . . . probably transformed American law, but the ‘law of the steam engine’ never existed.” Joseph H. Sommer,

In addition to its mundane uses, the Internet is also a gateway that permits other things to happen that are dramatically different from anything that does or can happen in ordinary space. It is for these dramatically different sets of relations enabled by the technological tool that we reserve the word “cyberspace.” This Article proposes that “cyberspace” is a useful term because it can help to clarify whether and to what extent any event on the Internet is more like ordinary space (and less needful of any special legal handling) or is more like an extraordinary, characteristically different use (and more needful of special handling under the law in order not to lose, spoil, or waste the important fundamental characteristics or values of cyberspace). As Professor Lessig warns, “much of the ‘liberty’ present at cyberspace’s founding will vanish in its future. Values that we now consider fundamental will not necessarily remain. Freedoms that were foundational will slowly disappear.”²⁶

By separating “the Internet” from “cyberspace” this Article aims to identify and articulate the “values” that are intrinsic to cyberspace. Thus it will become possible to regulate “the Internet” (or the “telephone” or any other particular tool or technological accident) without losing sight of the underlying freedoms that are truly foundational, not to any technology, but to cyberspace itself. This Article will propose an explicit factor: the nature and place of use, which is designed to test any particular use of the Internet or other technological tool to evaluate the extent to which that particular use really does implicate some freedom that actually is foundational to cyberspace. This Article lets the law observe the manifest fact that not all uses of the Internet are equal because not all uses equally implicate the characteristic concerns of cyberspace. Some are just transpositions of ordinary space. Others are substantially different. It would be good for the law to know which is which.

There is more than a little truth in every one of the apparently divergent views expressed about the Internet, and the key to making sense of them all is the unifying idea of cyberspace. The Internet is the

Against Cyberlaw, 15 BERKELEY TECH. L.J. 1145, 1146 (2000), *quoted in* Gomes, *supra*, *see id.* (“Very few bodies of law are defined by their characteristic technologies. Tort law is not ‘the law of the automobile,’ even though the auto accident is the paradigmatic tort case. Nor is urban zoning ‘the law of the elevator.’ Modern informatics technology is no exception.”); *see also* ROGER E. SCHECHTER & JOHN R. THOMAS, INTELLECTUAL PROPERTY: THE LAW OF COPYRIGHTS, PATENTS AND TRADEMARKS 788 (2003). Professors Roger Schechter and John Thomas articulate a view not unlike Professor Sommer’s, using the term “shmyberspace.”

26. RADIN ET AL., *supra* note 5, at 20-21 (quoting LESSIG, *supra* note 24, at 6) (referring to values specifically relating to the Internet and the founding of the Internet).

gateway, but cyberspace itself is an activity set characterized by access, navigation, information-activity, and augmentation, and by the values inherent in them.

Therefore, this Article asserts cyberspace is broadly interesting, not merely because it is at the other end of a new technological gateway with some narrow appeal to a small community of matrix experts, but because it permits certain things—access, navigation, information-activity, and augmentation—that are appealing to a lot of people and not so readily available elsewhere. The nature of cyberspace suggests that it may be considered as an embodied switched network for moving information traffic having four further characteristics: (1) it is *jackable* from anywhere within a matrix (it permits *access*), (2) it goes *from* anywhere in the matrix *to* anywhere in the matrix and back again (it promotes point-to-point-and-return *navigation*), (3) it has *information-activity* or leisure at its end and as its end (it manifests an active *purpose* even if playful), and (4) it augments or extends the powers and perceptions of the user (it is an *augmentation* instrument). Each of those four will be dealt with in turn. Another characteristic, trust, is implicit and it will be discussed after the first four.

1. Access

An embodied switched network for moving information can have the additional characteristic of permitting access at various entry points. The kind of access characteristic of cyberspace is captured by the expression: “jacking in” to the matrix.²⁷ It is an access that creates a new registered and indexed (addressed or addressable) node that is joined to the matrix by a switched path. This would connote a model of a common carrier matrix or an open matrix into which the new jack entrant is addressed upon entry and is, therefore, “recognized” to be there. As a result, the entrant is findable, becomes part of the navigation grid, and is eligible to become an information-seeker (and to become a findable object of another seeker).

The Internet and the phone system are paradigmatic examples of this sort of access. The railroad and other networks are not.²⁸ Coupled

27. See, e.g., GIBSON, *supra* note 1, at 4-5 (describing a character as “jacked into a . . . cyberspace deck that projected his disembodied consciousness into the consensual hallucination that was the matrix”). In this Article, “matrix” is used to signify an embodied switched network that has the characteristics of access, navigation, information, and augmentation.

28. But because a railroad does permit access at stations or other stops, and because it is possible to hop a train at unscheduled places, there are some analogies between a railroad and cyberspace that make the two more or less alike. See LEVY, *supra* note 19, at 17-38.

with the other characteristics, access distinguishes cyberspace from other embodied networks, and from all disembodied networks.

2. Navigation

Having jacked into the matrix (that is, having accessed an embodied switched network so as to become an addressable subject/object) the next task is to be able to “go” (that is, to move information traffic) from anywhere within the matrix to anywhere else and back again. The characteristic navigation is not only reciprocal in the sense of being able to go there and back, node-to-node, but is also capable of being routed between and among nodes by independent, nonidentical switched paths.

On the Internet, information traffic is currently sent in packets as determined by protocols that define the network. Packets consist of “a header, which includes the address of the sending and destination computers [nodes]; . . . the payload consisting of the data to be transmitted; and . . . a trailer, which contains information that is used to check whether there were any errors in transmission.”²⁹

On the Internet, navigation may be accomplished directly by entry of the string of numbers that is the destination node address, but may also be accomplished indirectly by entry of a domain name that is routed along nonidentical paths by successive machine-directed queries addressed to networked servers until a match is found (a match between the domain name and the corresponding string of numbers that is the destination address) and then the connection is made to the destination address.³⁰

The Internet and the phone system are paradigmatic examples of this sort of navigation. The sewer system and other networks are not.³¹ Coupled with the other characteristics, navigation distinguishes cyberspace from other embodied networks and from all disembodied networks.

3. Information-Activity

The primary reason for jacking into and navigating the matrix is real-time information-activity or leisure use. Unlike the primary reason for moving physical traffic—like a letter moving through the postal

29. See RADIN ET AL., *supra* note 5, app. A, at 1210-11 (Computer Networking and the Internet).

30. See *id.* app. B, at 1214-19 (The Domain Name System).

31. Waste water and other materials do navigate the sewer system from an originating node to a destination node. But, once flushed they typically do not return. Or so one would hope.

system, or a container moving through the transportation system, or energy moving through the power grid—where the movement of the thing is the reason for using the system,³² the primary reason for jacking into the matrix is to engage in real-time information-activity. The characteristic traffic in cyberspace is unrefined, unprocessed information. Moreover, the user residing in the matrix at a node is not only an information-seeker, as a *subject* originating information traffic in the matrix from the node, but that user also becomes a findable *object* of information-seekers at that node, findable or addressable by other information-seekers within the matrix.³³

The characteristic information-activity in cyberspace is an active, real-time exercise. Unlike using the inter-library loan system to get a book, or posting a letter in hope of getting an answer, the cyberspace information gatherer is active during the process. Not only does the cyberspace user seek information, but the cyberspace user is engaged actively with the object of information at the same time. On the phone, one speaks to another, unlike the mail in which there is a delay. On the Internet, one reads, evaluates, copies, pastes, and uses information, unlike the library loan in which there is a delay until the book is delivered, opened, read, and remembered.

The Internet and the phone system are prime examples of this sort of information-activity or leisure-driven purpose. The ordinary post office, the power utility grid, and other networks are not. Coupled with the other characteristics, information-activity or leisure use distinguishes cyberspace from other embodied networks, and from all disembodied networks.

4. Augmentation

In one sense, all technology increases human powers and capacities. The stirrup makes it easier to ride a horse and to wield a weapon while doing so.³⁴ The iron steamship, the locomotive, and the telegraph all

32. A railroad system is primarily for moving cargo, persons or things from one place to another, but because it is also possible to take a train just to learn about the land between or at one or more destinations, there are some analogies between a railroad and cyberspace that make the two more or less alike. See LEVY, *supra* note 19, at 17-38. So with the postal system, it is somewhat like cyberspace, but it is not real-time.

33. As one joins, for example, the phone system, that one is able to dial other numbers (as a subject, seeking information), but is also able to be reached by others (as an object of another's information search).

34. See LYNN TOWNSEND WHITE, *MEDIEVAL TECHNOLOGY AND SOCIAL CHANGE I* (1962) (discussing the history of the horse in battle as divided into three periods, culminating in that of the rider equipped with stirrups).

increase the speed and distance over which persons may travel and communicate and, thereby, increase the powers of human beings.³⁵ But the technology of the Internet and the telephone, and the activities that are characteristic of cyberspace are distinctively different because they do not merely improve or enhance, they augment or extend existing powers.

Consider improved mail delivery technology: a letter addressed and deposited in the mail might arrive more rapidly if delivered by car or airplane, but it still must arrive before it can have any effect on its recipient. Once the letter reaches its recipient, it still must be answered before it will have any tangible effect on the original sender. In contrast, when a phone call is placed, one voice is readily audible to the other, and there is real and immediate communication. This is no imaginary event. There is no “consensual hallucination” but a real conversation that occurs in ordinary reality. The real conversation is occurring precisely because the voices have been augmented or extended by the mediation of the phone system. Each party to the conversation is still in the same ordinary place as before, but their voices are present elsewhere in a cyberspace, as an extended or augmented presence across a city, across a nation, or around the world. As it is with the telephone, so it is with the Internet.

One characteristic difference of cyberspace technology, as compared to other technologies, is that cyberspace technology objectively augments or extends the powers and perceptions of its users. To the extent any of this technology is relevant to the law of trademarks (or contract, copyright, personal jurisdiction, choice of law, or other legal issues) in cyberspace, it is because of the value of cyberspace augmentation and not merely the presence of the underlying technology. What is being described, and what has become a surprisingly routine feature of daily life is, in a word, augmentation. Augmentation is an extension of ordinary powers of perception, memory, and imagination. It is not unique to the Internet, and it is not imaginary. A person using a

35. Ever the pessimist, Freud famously observed that all this is not necessarily for the good. After first enumerating exploits of which humankind can be proud—newly won power over space and time achieved by the telephone and other inventions—he observes:

If there were no railway to make light of distances my child would never have left home and I should not need the telephone to hear his voice. If there were no vessels crossing the ocean my friend would never have embarked on his voyage and I should not need the telegraph to relieve my anxiety about him. . . . And what do we gain by a long life when it is full of hardship and starved of joys and so wretched that we can only welcome death as our deliverer?

SIGMUND FREUD, *CIVILIZATION AND ITS DISCONTENTS* 47 (Joan Riviere trans., Hogarth Press, 3d ed. 1946) (1929).

telephone actually can project his or her voice into a real conversation far beyond the reach of any ordinary voice. A person using a networked computer with a high-resolution screen actually can see artwork residing in a museum miles away, hear music played or recorded elsewhere, watch movies, participate interactively with other people, and record, index, and store these for later retrieval. These are extensions of ordinary powers of perception, memory, and imagination. They are objective phenomena. They are augmented powers. A person can be in cyberspace while fixed in ordinary space, and a person can project an extended presence into cyberspace, leaving trails and traces that are objective.

A last characteristic, then, of cyberspace is that it is an augmentation environment within which there is an extension of place, perception, memory, and imagination. Combined with the other features of cyberspace, augmentation helps to define something that is a phenomena enabled by an embodied switched network in which certain things—access, navigation, information-activity, and augmentation—that appeal to a lot of people and are not so readily available elsewhere can occur.

5. Trust

Important, implicit, but not yet separately identified is the enabling characteristic of trust. “Trust” is a secondary inference necessary in support of the other objective characteristics previously introduced. Though in some sense secondary, trust seems to be an essential element without which the other characteristics fail in their purpose. Without trust in the identity, location, or nature of landmarks in cyberspace, navigation becomes tedious or hopeless, and access is essentially denied (a multiplication of false navigational landmarks is a constructive denial of access to cyberspace due to the futility of navigating once jacked into the matrix). Without trust in the integrity of personal identifications in cyberspace, augmented presences become dangerous or vulnerable to exploitation, and information-activity is suspect because it is unverifiable as to source. The characteristic of trust is a fundamental and necessary addition to the activity set that characterizes cyberspace. It is also, in some sense, part of an underlying commercial architecture of cyberspace and something that the law is able to assist.

Cyberspace activity occurs not only in the general context of “pure” information-activity, but also within the specific context of commerce. This commercial context further implicates cyberspace trust as part of the architecture or “code” of a commercial place. As articulated by

Professor Lessig, “code” or “architecture” is one constraint on behavior.³⁶ Architecture is among those constraints that derive “from the nature of the world”—the speed of light, a lock, a mountain range, cathode ray tubes, telephone caller ID, software instructions, and strong encryption, for example.³⁷ On the Internet and in cyberspace, regulation by technological architecture or code tends to develop from a condition of minimal to greater design.³⁸ The direction is from a condition in which network efficiency tends to be optimized to a condition in which control becomes possible;³⁹ one kind of control made possible by code supports trackable identities on the Internet. This is a control that enhances the value of cyberspace.

For commercial use of the Internet and of cyberspace, Professor Lessig observes that “the Net will need a far more general architecture of trust—an architecture that makes possible secure and private transactions.”⁴⁰ The elements of trust within this architecture include:

- (1) authentication, to ensure the identity of the person you are dealing with;
- (2) authorization, to ensure that the person is sanctioned for a particular function;
- (3) privacy, to ensure that others cannot see what exchanges there are;
- (4) integrity, to ensure that the transmission is not altered en route; and
- (5) non-repudiation, to ensure that the sender of a message cannot deny that he sent it.⁴¹

Professor Lessig believes commercial imperatives are likely to spawn such architecture, “with or without government intervention,” but governments might choose to create incentives to the creation of such architecture.⁴² This last characteristic, “trust,” is the one that forges a unified connection between the noncommercial and the commercial functions or uses of cyberspace. In point of fact, both “pure” information-activity in cyberspace and applied commercial activity in cyberspace depend upon the architecture of trust.

36. Other constraints are law, norms, and the market. RADIN ET AL., *supra* note 5, at 33 (quoting LESSIG, *supra* note 24, at 31).

37. *Id.* (explaining that the speed of light constrains potential intergalactic travel; a lock constrains a burglar’s ability to enter; a mountain range constrains an ability to travel; a cathode ray tube constrains the size of computer screens, until liquid crystal displays enable mobile computing; telephone caller ID constrains the ability to call anonymously; the feature set of software constrains the user’s ability to use it; “strong encryption constrains the ability of others to intercept and read our communications”).

38. *Id.* at 21.

39. *Id.* (quoting LESSIG, *supra* note 24, at 31).

40. LESSIG, *supra* note 24, at 40.

41. RADIN ET AL., *supra* note 5, at 21 (quoting LESSIG, *supra* note 24, at 40).

42. *Id.* (commenting on LESSIG, *supra* note 24, at 50).

C. The Real Values of Cyberspace

The third and final heuristic inquiry is this: assuming some conduct is “in” cyberspace and causes some harm, what is the law supposed to do about it? At the very least, the law ought to ask whether the conduct at issue supports cyberspace values.

1. Cyberspace Values, Architecture, and the Law’s Assistance

The value of cyberspace inheres in its characteristic activity set: access, navigation, information-activity, augmentation, and trust. To the extent mark-type (or contract, copyright, personal jurisdiction, choice of law, or other) disputes on the Internet or in cyberspace are adjudicated on a basis that accounts for the nature and place of use, trademark and other law can facilitate the development of an architecture suitable for commercial use of cyberspace while maintaining the values of access, navigation, information-activity, augmentation, and trust that are (or were) inherent in its noncommercial purposes. When assessed against any particular legal standard, a transaction in cyberspace that positively impacts, supports, or enhances any objective value of cyberspace would seem to be one that has a real value, virtue, or excellence in relation to the objective and characteristic purposes for which cyberspace is being designed and used.

Other things being equal, if the law were open for development in one way or another there would be a substantial advantage in choosing to develop the law along a path that furthers the values of cyberspace, rather than along a path that does not. The bridge between the real values of cyberspace and any legal conflict occurring there can be expressed in a new factor, the nature and place of use, as adjusted for any legal field in which the cyberspace conflict occurs.

2. The Nature and Place of Use—Degrees of Cyberspace

The nature and place of use factor considers two variables, one of which is the place of use. The place of use is a sliding scale because it first looks for a qualifying gateway and then looks for the degree to which characteristic cyberspace activities are actually engaged in any particular transaction. Those characteristic activities or values are access, navigation, information-activity, and augmentation (and trust). The more those activities are implicated, the deeper and higher in cyberspace is any given transaction. The range can be from nil (no gateway, no Internet at all), to partial or low cyberspace (a transaction on the Internet which is nothing more than a transposed ordinary space transaction), to much

higher cyberspace (a transaction that maximizes the characteristics of cyberspace). This “place of use” factor is aided, perhaps especially in its commercial aspect, but also in its noncommercial aspect, by an architecture of trust that supports the place: means to ensure authentication, authorization, privacy, integrity, and nonrepudiation. This architecture of trust in commercial cyberspace is consistent with the basic, noncommercial attributes of access, navigation, information-activity, and augmentation.

The other variable is the nature of the use. The nature of use is another sliding scale because it is concerned with specific users, or types of uses, in cyberspace, adjusting their relationship both to the values of cyberspace and to their impact on the “ordinary” rules of any particular legal field. A use that supports or enhances cyberspace values is positive. A use that diminishes or undermines cyberspace values is negative. The range can be from strongly positive, to neutral, to strongly negative.

Combined, the two variables contained within the nature and place of use factor permit a direct and common sense assessment whether some cyberspace activity constitutes a positive use in high cyberspace (such as the service provided by a search engine that maps cyberspace, creating an aid to navigation in space), or constitutes a negative use in high cyberspace (such as the nuisance created by a spoofer or spoiler who disrupts navigation by tampering with markers in space). If there is a case of uncertainty in the law involving a dispute in cyberspace, it should be the purpose of the law to select the legal path that will encourage or incentivize positive uses in higher cyberspace, and to discourage and disincentivize negative uses.

This Article intends to do no more than to propose a definition of cyberspace and the nature and place of use there, sketching only a rough outline of how the nature and place of use might be adapted and applied to one area of the law. Part IV of this Article will adapt the general analysis to the specific problem of invisible and attenuated uses of trademarked expressions on the Internet. Before sketching that outline, this Article will consider other, prior definitions of cyberspace.

III. COMPETING DEFINITIONS OF CYBERSPACE

A. *Current Law*

Curiously, cyberspace is not otherwise commonly defined in the law.⁴³ Sometimes, the word “cyberspace” seems to be used as if it were the same as the Internet or the networked computers that get to the Internet or the resources found there.⁴⁴ Sometimes “cyberspace” is used as if it represents the imagination, or a shared imagination,⁴⁵ a virtual “reality” so separate from “real” or “ordinary” reality as to be an independent “place” in some allegorical sense of the word.⁴⁶ Sometimes

43. For example, though Radin and her coauthors define the “Internet” and scores of other related terms, there is no explicit definition of “cyberspace” in the glossary. *See id.* at 1236 (sequential glossary entries for “country code top-level domain” and for “cybersquatting” but no entry for “cyberspace”). This does not imply that the authors overlooked the term; to the contrary, those authors have very well captured the range of diverse views of “cyberspace” in relation to its regulation. *See id.* at 2-38.

44. *Sporty’s Farm L.L.C. v. Sportsman’s Mkt., Inc.*, 202 F.3d 489, 493 n.5 (2d Cir. 2000) (“‘Cyber’ is the prefix used to denote Internet-related things. The realm of the Internet is often referred to as ‘cyberspace.’”). The United States Supreme Court in *Reno v. ACLU* observed:

Anyone with access to the Internet may take advantage of a wide variety of communication and information retrieval methods. These methods are constantly evolving and difficult to categorize precisely. But, as presently constituted, those most relevant to this case are electronic mail (e-mail), automatic mailing list services (“mail exploders,” sometimes referred to as “listservs”), “newsgroups,” “chat rooms,” and the “World Wide Web.” All of these methods can be used to transmit text; most can transmit sound, pictures, and moving video images. *Taken together, these tools constitute a unique medium—known to its users as “cyberspace”—located in no particular geographical location but available to anyone, anywhere in the world, with access to the Internet.*

Reno v. ACLU, 521 U.S. 844, 851 (1997) (emphasis added).

45. GIBSON, *supra* note 1, at 4-5 (“Case was twenty-four. At twenty-two, he’d been a cowboy, a rustler, one of the best. . . . He’d operated on an almost permanent adrenaline high, a byproduct of youth and proficiency, jacked into a custom cyberspace deck that projected his disembodied consciousness into the consensual hallucination that was the matrix.”). In fact, Gibson had used the term “cyberspace” in a short story two years earlier, but not to the same effect. *See* William Gibson, *Burning Chrome*, OMNI, July 1982, at 72 (“I knew every chip in Bobby’s simulator by heart; it looked like your workaday Ono-Sendai VII, the ‘Cyberspace Seven,’ but I’d rebuilt it so many times. . . .”). Gibson is credited with coining the word “cyberspace.” *See* sources cited *infra* note 46.

46. *See* Interview by Dan Josefsson with William Gibson in Stockholm, Swed. (Nov. 23, 1994), <http://www.josefsson.net/gibson/> (“Well, you know, I think in a very real sense cyberspace is the place where a long distance telephone call takes place. Actually it’s the place where any telephone call takes place and we take that very much for granted. Otherwise, I would say that when people use the Internet, that’s when they’re most obviously navigating in cyberspace.”). The Court in *eBay v. Bidder’s Edge* noted:

The phrase “brick and mortar” is often used to designate a traditional business when contrasting it with a predominantly, or entirely, on-line business. The phrase appears to refer to the historical reliance on conducting commerce within the context of a physical

the word “cyberspace” is used to signify both the Internet and some virtual reality or “place” experienced there.⁴⁷ Occasionally, it has to do with navigation.⁴⁸ And from time to time, cyberspace is used with reference to legal consequences that might follow from regulating it (or not regulating it).⁴⁹

space made from materials such as brick and mortar, as opposed to the modern trend toward conducting commerce *in a cyberspace made from computer programs*.

eBay, Inc. v. Bidder's Edge, Inc., 100 F. Supp. 2d 1058, 1065 n.11 (N.D. Cal. 2000) (emphasis added); *accord* 3 OXFORD ENGLISH DICTIONARY ADDITIONS SERIES 107 (John Simpson ed., 1997) [hereinafter OED] (“[Cyberspace is] [t]he notional environment in which electronic communication occurs, esp. when represented as the inside of a computer system; space perceived as such by an observer but generated by a computer system and having no real existence; the space of virtual reality.”). The OED history of the word gives the date of 1982 for the first use of “cyberspace,” and indicates that it appeared in the July 1982 issue of *OMNI* magazine, OED, *supra*, at 107, thereby attributing its coinage to Mr. Gibson. See Gibson, *supra* note 45, at 72.

47. Stomp, Inc. v. NeatO, L.L.C., 61 F. Supp. 2d 1074, 1075 n.1 (C.D. Cal. 1999). Having given the conventional definition of the Internet, the court observes: “While there is no physical presence, the information that is available through [the Internet] is often referred to as being in ‘cyberspace’ or ‘on the Internet.’” *Id.*

48. From the root coinage: cyber-netics. “Cyber-” is the Greek root for various related verb or noun forms: “to steer . . . to act as pilot or helmsman.” See HENRY GEORGE LIDDELL & ROBERT SCOTT, AN INTERMEDIATE GREEK-ENGLISH LEXICON 454 (1985) (κυβερ-) (Latinized here as cyber); cf. PLUTARCH, THE LIVES OF THE NOBLE GREEKS AND ROMANS 11 (John Dryden trans., Arthur Hugh Clough ed., Random House 1932) (discussing Theseus’ voyage not only to kill the Minotaur, but to return, and this by aid of a specially provided steersman [cyber-naut] “the Athenians having as yet not applied themselves to navigation” who was subsequently honored in Athens at the feast named Cybernesia).

49. See RADIN ET AL., *supra* note 5, at 2-38, providing a valuable compendium of representative views or paradigms for regulating “electronic commerce” and which advocates taking a pluralistic approach. As is well summarized there, the range appears wide. Compare, e.g., John Perry Barlow: A Declaration of the Independence of Cyberspace (Feb. 8, 1996), <http://www.eff.org/~barlow/Declaration-final.html> (“Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone.”, quoted in RADIN ET AL., *supra* note 5, at 2 (a “utopian” view)), and David R. Johnson & David Post, *Law and Borders—The Rise of Law in Cyberspace*, 48 STAN. L. REV. 1367, 1367 (1996) (“[A] new boundary, made up of the screens and passwords that separate the virtual world from the ‘real world’ of atoms, emerges. This new boundary defines a distinct Cyberspace that needs and can create its own law and legal institutions.”, quoted in RADIN ET AL., *supra* note 5, at 4), with Jack L. Goldsmith, *Against Cyberanarchy*, 65 U. CHI. L. REV. 1199, 1205 (1998) (contending for permissible national jurisdiction to regulate cyberspace: “The skeptics are in the grip of a nineteenth century territorialist conception of how ‘real space’ is regulated . . .”, quoted in RADIN ET AL., *supra* note 5, at 9); and John Rothchild, *Protecting the Digital Consumer: The Limits of Cyberspace Utopianism*, 74 IND. L.J. 893, 956 (1999) (“The key flaw in the normative component of the utopians’ argument is that the harmful effects . . . accomplished through use of the Internet are felt not solely in the realm of cyberspace, but also and unavoidably by a flesh-and-blood resident of a real-world geographic area subject to the territorial jurisdiction of a sovereign.”, quoted in RADIN ET AL., *supra* note 5, at 14).

*B. A Brandeis Brief for the New Millennium*⁵⁰

Sixty years ago, in 1945, Vannevar Bush, former President of the Massachusetts Institute of Technology and Director of the United States Office of Scientific Research and Development at the end of World War II, observed:

The world has arrived at an age of cheap complex devices of great reliability; and something is bound to come of it. . . . Consider a future device for individual use, which is a sort of mechanized private file and library. It needs a name, and, to coin one at random, “memex” will do. A memex is a device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory.⁵¹

Some forty years ago, in 1963, Douglas Engelbart claimed that augmentation was the solution—data had exceeded humankind’s ability to know it—and the only solution would be to augment humankind’s intellect by new tools which were already at hand in computer workstations.⁵² By 1968, Douglas Engelbart had built an embodiment of Vannevar Bush’s “memex” machine, and in December 1968, Engelbart demonstrated it publicly at the Fall Joint Computer Conference in San

50. Cf. Brief for the Defendant in Error, *Muller v. Oregon*, 208 U.S. 412 (1908) (No. 107), 1908 WL 27605. A “Brandeis Brief,” such as the one cited in *Muller v. Oregon*, as used herein is a narrative that tells an extra-legal story, but not all the story. It is useful because it can articulate some of the underlying suppositions upon which policy recommendations might be based, but it is somewhat dangerous because it might be wrong and is certainly incomplete. On balance, the good can outweigh the bad because it creates a feedback loop (once an underlying supposition is expressly articulated, it can be recognized and, if necessary, corrected).

51. Vannevar Bush, *As We May Think*, ATL. MONTHLY, July 1945, at 106-07 (envisioning a “memex” machine embodied in a desk with “slanting translucent screens, on which material can be projected for convenient reading” and stored within the desk is vast information, books, pictures, current periodicals, newspapers all available to the user by navigating through the information, calling up files, culling through information, and mining the data field), *quoted in* MICHAEL A. HILTZIK, *DEALERS IN LIGHTNING: XEROX PARC AND THE DAWN OF THE COMPUTER AGE* 63 (2d ed. 2000) (“‘*As We May Think*’ remains one of the few genuinely seminal documents of the computer age. . . . Bush discerned the birth of what would be called the ‘information glut.’”).

52. Douglas C. Engelbart, *A Conceptual Framework for the Augmentation of Man’s Intellect*, in *COMPUTER-SUPPORTED COOPERATIVE WORK: A BOOK OF READING* 35 (Irene Greif ed., 1988) (1963) (predicting, e.g., that by way of networked computers, documents can be more readily composed and revised “from rearranged excerpts of old drafts”). See generally HILTZIK, *supra* note 51, at 62-67.

Francisco, the result being “one of the most famous events in computing history.”⁵³

More than thirty years ago, in 1972, the *Rolling Stone* reported that “[r]eady or not, computers are coming to the people.”⁵⁴ Even then, the hint of an emerging new reality was apparent from the evidence of activity at various schools and laboratories,⁵⁵ the small but unfolding distributed computer network funded by the Advanced Research Projects Agency (ARPA) of the United States Department of Defense,⁵⁶ and interviews with Alan Kay,⁵⁷ Peter Deutsch, and others.⁵⁸

More than twenty years ago, in 1984, a computer with a graphical user interface was advertised to a mass market during the Superbowl,⁵⁹ and a novelist took the existing concept of “ideaspace” and coined the word “cyberspace” to describe it.⁶⁰ About seven years later, there was

53. HILTZIK, *supra* note 51, at 65 (quoting Engelbart’s observation of the demonstration that “[i]t cost money . . . the nice people at ARPA and NASA who were funding us, effectively had to say, ‘Don’t tell me!’”). He also notes that the 1968 effort

was worth every penny. The audience was riveted, as Engelbart . . . described and demonstrated a fully operational system of interactive video conferencing, multimedia displays, and split screen technology The *pièce de résistance* was Engelbart’s implementation of the memex. The [twenty-foot tall projection] screen showed how a user could select a single word in a text document and be instantly transported to the relevant portion of a second document—the essence of hypertext, found today, some thirty [now, thirty-five] years later on every World Wide Web page and countless word processing documents.

Id. at 65-66.

54. Stewart Brand, *Spacewar: Fanatic Life and Symbolic Death Among the Computer Bums*, ROLLING STONE, Dec. 7, 1972, at 50.

55. Stanford’s Artificial Intelligence Laboratory, the Xerox Palo Alto Research Center (Xerox PARC), MIT, the University of Utah, and others. *Id.* at 50, 58.

56. *Id.* at 52. This was ARPAnet, the precursor to the Internet. See *Stomp, Inc. v. NeatO*, L.L.C., 61 F. Supp. 2d 1074, 1075 n.1 (C.D. Cal. 1999).

57. Brand, *supra* note 54, at 52. In Brand’s article, Kay comments on his colleagues at Xerox PARC, saying: “This is really a frightening group, by far the best I know of as far as talent and creativity. The people here all have track records and are used to dealing lightning with both hands.” *Id.*; see Alan Kay & Adele Goldberg, *Personal Dynamic Media*, in THE NEW MEDIA READER 391, 392 (Noah Wadrip-Fruin ed., 2003). Kay and Goldberg discuss the idea of the “Dynabook” personal computer: “[a machine with] enough power to outrace your senses of sight and hearing, enough capacity to store . . . thousands of . . . poems, letters, recipes, records, drawings, animations, musical scores, . . . and anything else you would like to remember and change” and small, with a good display. Kay & Goldberg, *supra*. Alan Kay has been described as “the role model for the modern computer nerd, a Chuck Yeager for the generation that got engaged by the new technology in the 1970’s” with the swagger of the “computer bum.” HILTZIK, *supra* note 51, at 81, 80-96.

58. Brand, *supra* note 54, at 51, 54.

59. The text “1984 won’t be like ‘1984’” was appended to director Ridley Scott’s visual of the hammer hurled into the screen (the hammer hurled around the world), *described in* STEVEN LEVY, *INSANELY GREAT* 169-70 (1994).

60. See OED, *supra* note 46, at 107; Gibson, *supra* note 45, at 72.

HTML, the World Wide Web, and a browser to interpret it.⁶¹ More recently, there were the high-speed connections to make it fast enough for everyday use, sufficiently cheap to attract billions of data pieces, and desirable enough to spawn directories and search engines to get users to the data.⁶²

It is speculated that not much more than twenty years hence, there will be such additional augmentation as to require a new word to express the new powers, and some have spoken of “singularity.”⁶³ There is no need yet to anticipate what we cannot know,⁶⁴ but such controversies only

61. The first Web site was put online in 1991. See, e.g., TIM BERNERS-LEE WITH MARK FISSETTI, *WEAVING THE WEB: THE ORIGINAL DESIGN AND ULTIMATE DESTINY OF THE WORLD WIDE WEB BY ITS INVENTOR* 3, 4 (1999).

Inventing the World Wide Web involved my growing realization that there was a power in arranging ideas in an unconstrained, weblike way. . . . *Suppose all the information stored on computers everywhere were linked*, I thought. *Suppose I could program my computer to create a space in which anything could be linked to anything*. All the bits of information in every computer at CERN [the European Particle Physics Laboratory], and on the planet, would be available to me and to anyone else. There would be a single, global information space.

See generally World Wide Web Consortium, <http://www.w3c.org> (last visited Jan. 18, 2007).

62. A directory is a searchable index of resources, and so is a search engine. The “central difference” between them is that a directory is an index compiled by human beings while a search engine is a directory compiled by an autonomous software agent with search and decision criteria determined by programmed logic and algorithms. Among current well-known search engines are Altavista and Google; among the popular directories are Yahoo! and Ask Jeeves. RADIN ET AL., *supra* note 5, at 95-96.

63. See, e.g., Glenn Harlan Reynolds, *Here It Comes*, WALL ST. J., Oct. 1-2, 2005, at P1 (reviewing RAY KURZWEIL, *THE SINGULARITY IS NEAR: WHEN HUMANS TRANSCEND BIOLOGY* (2005)) (“People’s thoughts of the future tend to follow a linear extrapolation—steadily more of the same, only better—while most technological progress is exponential, happening by giant leaps and thus moving farther and faster than the mind can easily grasp.”). *But cf.* Lee Gomes, *A Back-Cover Brush with a High Tech Seer and Some of His Pals*, WALL ST. J., Oct. 5, 2005, at B1 (“My modest proposal is for [Kurzweil and other proponents of strong-form artificial intelligence] to be locked up somewhere—under humane conditions, of course, with plenty of sunlight and good Internet access—and forced to actually build the computers that they keep insisting are just around the corner. Until that happens, no more books or articles or hectoring.”).

64. This is all the more reason for a heuristic solution that will help a decisionmaker get to the right outcome with minimal retraining expenses. See *supra* note 6. See generally Gomes, *supra* note 63 (“I fret that we have hopelessly confused a computer simulation of something with the duplication of it. We have, for example, increasingly powerful computer models of the weather. But you can run one of them in your backyard until the cows come home and you’re not going to make any rain.”). An opposite error to that voiced by Gomes, “High Tech,” would be to confuse objective phenomena with simulations and to dismiss real events as if they were only imaginary. This Article seeks to avoid both errors, and to assert there are objective phenomena that occur, by augmented powers, in cyberspace. The phone call is an objective conversation carried on at a distance greater than any unaugmented voice could carry. The information-activity that is actually conducted by perception and manipulation of text or audio or pictures-at-a-distance on the Internet is an objective phenomenon. So is using an address or a magnet on the Internet actually to “go” to a Web page by an augmented presence there that allows the user to see

reinforce an approach like that of this Article, separating cyberspace from any particular technology so it is not dependent upon any one accidental manifestation. The only resolution necessary to this present Article is the observation that augmentation is an important characteristic of cyberspace, at least for now and possibly even more so in the future.

C. The Solution: Defining Cyberspace Down (and Up)

This Article proposes a nonarbitrary, common sense definition that affords a basis for distinguishing cyberspace both from cyberromanticism, utopianism, hucksterism, and hype (in a word, “shmyberspace”)⁶⁵ and from a raw technological realism.⁶⁶ In this sense, it defines cyberspace “down” from a level of cloudy “virtual reality” that has no real virtue.

This Article also creates a basis for generalizing up a level from the raw and rapidly changing technology⁶⁷ so decisionmakers can begin to

or hear beyond the limits of unaugmented eyesight or hearing, while at the same time actually remaining stationary in ordinary space.

65. As to anticyber-romanticism, it has been said:

With commerce comes trademarks. As soon as firms began to offer goods or services over the Internet, they began to use trademarks. Not long thereafter, they began to fight with each [other] over the use of those trademarks. Many of the issues that have come up—and that will come up in the future—involving the use of trademarks on the Internet are routine and familiar trademark disputes. Old wine in new bottles . . . the analysis will be identical to any other trademark controversy. Cyberspace, *shmyberspace*—there will be liability.

SCHECHTER & THOMAS, *supra* note 25, at 788 (emphasis added) (citing JEROME GILSON ET AL., TRADEMARK PROTECTION AND PRACTICE § 7A.01, at 7A-5 (2003) (“[T]here is no Lanham Act exception for the Internet.”)); *see also* Gomes, *supra* note 25.

66. As to technological realism, it has been said:

On the other hand, the use of trademarks in connection with e-commerce has generated a variety of new problems unique to the Internet. Most of these problems are outgrowths of the underlying technology or architecture of the Internet itself. In other words, they flow from how web sites are identified and indexed To the extent that the problems are by-products of current technology, they may not be around for long. As computer technology changes, old problems will vanish and new ones will arise. Thus the discussion which follows is in particular danger of being obsolete by the time you read it

SCHECHTER & THOMAS, *supra* note 25, at 788.

67. It is the specific claim of this Article that there is an appropriate and generally articulable level at which the problems of marks in space should be addressed. The appropriate approach is at a higher level of generality than any specific technological embodiment (and so this approach will still be useful even as specific computer technology changes, and this approach will not require that decisionmakers transform themselves into technological experts), and yet the approach is not at so vague a level as to accept at face value any or all of the assertions of the utopian romanticist, or to simply regard cyberspace as something mysteriously unknown and unknowable. Hence the proposal that there be an explicit factor: the nature and place of use, and the further effort to give content to that factor.

articulate why, if at all, cyberspace has certain defining values that might desirably be encouraged, or at least not harmed by legal regulation. In this sense, it defines cyberspace “up” from a sterile technological realism—a concern about technological minutiae that is beyond the ken of legal decisionmakers, and that has no real good as its end or aim. The real virtues of cyberspace derive from the real values of the objective conditions of cyberspace activities. Cyberspace *is* an embodied switched network for moving information traffic, further characterized by varying degrees of access, navigation, information-activity, augmentation, and trust. The *virtues* of cyberspace are access, navigation, information-activity, augmentation, and trust.

IV. AN EXAMPLE FROM TRADEMARK LAW: THE NEW DEFINITIONS APPLIED

Before the general definitions of cyberspace can solve any specific legal problem, they must be applied to the particular case at hand. They must be operationalized, specified, or tuned to fit the cyberspace conflict that is occurring. An example, taken from the field of trademark law, can illustrate how this tuning might be done.

A substantial and vexing problem with trademarks on the Internet is that the Internet (and cyberspace) permits invisible and attenuated uses of designations.⁶⁸ Because invisible and attenuated uses *can* happen, it is no surprise that invisible and attenuated uses *do* happen and, indeed, that they have come to typify the distinctive mark-type conflict on the Internet and in cyberspace. But because trademark law has to do with likelihood of confusion caused by an offending use of a designation, it should be no surprise that an invisible “use” of a trademarked designation poses a problem to ordinary trademark analysis.⁶⁹ That invisible or attenuated uses can attract unwary consumers⁷⁰ might lead to

68. Invisible uses occur when trademarked designations are included as hidden text or as unseen metatags on a Web site, or as keywords to trigger targeted advertisements, all of which act as *magnets* to draw traffic. Attenuated uses occur when trademarked designations are included within a domain name or a vanity phone number, both of which act as *addresses* to draw traffic to the site or to the dialed number. Trademark concerns are raised when addresses and magnets pull traffic to a site that is neither owned nor sponsored by the mark proprietor.

69. *Compare* 1-800 Contacts, Inc. v. WhenU.com, Inc., 414 F.3d 400, 410-12 (2d Cir. 2005), *cert. denied*, 126 S. Ct. 749 (2005) (addressing keyword-based advertising pop-up triggered by a trademarked term, the court held that such an invisible use is not a “use” and so could not constitute infringement), *with* Playboy Enters., Inc. v. Netscape Commc’ns Corp., 354 F.3d 1020, 1022, 1029 (9th Cir. 2004) (addressing keyword-based targeted advertising triggered by a trademarked term, the court held that such an invisible use might constitute infringement).

70. *E.g.*, *Netscape*, 354 F.3d at 1023 (involving the trademarked designation “PLAYBOY” used on the Internet as a keyword to trigger advertising that provided click-through

a likelihood of confusion,⁷¹ and can be designed purposefully to do so with admitted predatory intent,⁷² is clear as a matter of fact. The problem is what, if anything, trademark law might do about it.

What happens when trademark law intersects with cyberspace? Trademark law must deal with designations that might be used in cyberspace in one or more capacities, such as (1) an invisible or attenuated *address* (i.e., as a vanity domain name⁷³ or vanity phone number⁷⁴), (2) an invisible or attenuated *magnet* (especially those uses involving attenuated, invisible, or hidden searchable terms embedded in metatags or used to generate contextual advertising), or (3) a *mark* (more or less as any mark might be used anywhere else to identify a provider or sponsor of goods or services and to distinguish them from those provided or sponsored by others). Moreover, designations in cyberspace can be owned, and therefore can be used in a new and relatively unique way: (4) as an invisible or attenuated *roadblock* or *detour* (to prevent or spoil the extension of a trademark proprietor's mark into cyberspace by prior appropriation of it).

These uses may be made by invited or uninvited, harmless or predatory, value-adding or free-riding surfers and mappers, trappers and spoofer, spoilers and arbitrageurs and broker/agents, as well as by consumers and competitors (and persons who are simultaneously or sequentially acting in more than one capacity). The collision of invisible and attenuated uses with a fragmented set of users produces the typical mark-type conflicts in cyberspace among the characteristic users there. The next sections describe those conflicts, uses, and users in more detail.

access to Web sites that were not associated with the proprietor of the mark); *Brookfield Commc'ns, Inc. v. W. Coast Entm't Corp.*, 174 F.3d 1036, 1043 (9th Cir. 1999) (involving the trademarked designation "MOVIEBUFF" used on the Internet as an attenuated address incorporated within a domain name, and as an invisible magnet within a metatag on a Web site of a junior user of the designation).

71. *Netscape*, 354 F.3d at 1034. The issue was to be determined on remand, but the case settled. *Id.*; see also *Brookfield*, 174 F.3d at 1069.

72. See *Holiday Inns, Inc. v. 800 Reservation, Inc.*, 86 F.3d 619, 620 (6th Cir. 1996) (discussing an allegedly infringing vanity phone number that included a typo on a trademarked mnemonic expression; the alleged infringer intended to trap those consumers who were trying to reach the trademark proprietor by dialing "1-800-Holiday" but who misdialed a 'zero' for the letter 'o' in "holiday").

73. A vanity domain name implicating a mark is in the form: "www.TRADEMARK.com."

74. A vanity phone number implicating a mark is in the mnemonic form: "1-800-TRADEMARK" (or, to better represent mapping to a phone number limited to 7 digits: "1-800-TRADM RK"). The letters "T", "R" and so on are mapped to corresponding numbers: "T" to "8" and "R" to "7" on a standard phone pad.

A. *Invisible and Attenuated Uses*

1. Address

In cyberspace, an address is a node in the network. It is not “like” an address in ordinary space, it “is” the address in cyberspace. Once a user jacks into the network, the user can navigate to any node with an address. At the address, the user may obtain information. The user remains physically removed from the cyberspace address, while having an extended or augmented presence there. There are at least two common examples of a trademarked expression being used as an “address” in cyberspace: domain names and vanity phone numbers.⁷⁵

2. Magnet

In cyberspace, a magnet is something that can pull or influence a surfer or anyone else towards a destination (an addressable node that is an Internet Protocol (IP) address) or deposit the user as an augmented presence at the destination. Like a compass pointing North because a magnet pulls it in that direction, or like a satellite accelerating off the gravitational field of a planet to take a vector in an intended direction,⁷⁶ so is the effect (and the value) of a designation that acts as a magnet for aiding navigation in cyberspace.⁷⁷ But the magnet in cyberspace is not just “like” a compass, it actually takes the cyberspace user to an address—it can actually deposit the user (in the sense of an augmented or extended presence) at the IP address in cyberspace while the user remains at the physical place where the user started. Typical examples of this are the metatag and hidden code.⁷⁸

3. Mark

Unlike the case of a designation “as an address” or “as a magnet” in cyberspace as compared to ordinary space, the use of a designation “as a mark” ought to be straightforward, perhaps substantially the same in cyberspace as in ordinary space. This is, after all, the commonly desired use of a designation from the standpoint of trademark law. It is the core of trademark, and it might be supposed little thought is needed for

75. For trademarks in domain names, see *Brookfield*, 174 F.3d at 1044-45. For trademarks in vanity phone numbers, see *Holiday Inns*, 86 F.3d at 620-21, 624.

76. If there were a real “warp” drive, “transporter,” or such device, so would the magnet be like such a thing.

77. See *supra* Part II.B (discussing navigation as an inherent characteristic of cyberspace).

78. For metatags in cyberspace, see *Brookfield*, 174 F.3d at 1045. For invisible and attenuated uses more generally, see *supra* note 68 and accompanying text.

application of ordinary trademark law to this aspect of cyberspace use.⁷⁹ Yet there are some things to consider even here. In cyberspace, it might be convenient to distinguish the “*display*” from the “*script*” if there is to be a meaningful comparison to ordinary trademark or service mark usage outside of cyberspace.⁸⁰

4. Roadblock or Detour

In cyberspace, a roadblock is something that can prevent a trademark proprietor from using a trademark or from freely exploiting the goodwill cultivated in the mark by the proprietor. An example is a third party’s warehousing of designations that are trademarks owned by others, where the warehousing is accomplished by preemptive registration of domain names or vanity phone numbers that incorporate trademarked designations. Unlike ordinary space, in which any person has the capability of using any designation, cyberspace addressing is (at least at present) a finite resource in which it is possible to block another’s use by first registration.

In cyberspace, a detour is something that will take a searcher to a place other than the one (most probably) intended by the searcher. A detour implicates trademark law when the detour is accomplished by an address or a magnet that includes a trademarked designation drawing a searcher to a location neither associated with nor sponsored by the trademark proprietor.

B. *Characteristic Users*

Mark-type conflicts in cyberspace (or on the Internet) involve many of the same participants well known to trademark law in ordinary space: proprietors, competitors, and consumers. But cyberspace also, and more commonly than in ordinary space, entangles other participants in mark-type conflicts. Cyberspace also divides the interests of some of the more familiar participants. In cyberspace there are surfers and mappers, trappers and spoofer, spoilers and arbitrageurs, as well as consumers and competitors. The fragmentation of interests among the participants in cyberspace is one of the factors that tend to make mark-type conflicts in cyberspace more complex than in ordinary space.

79. See GILSON, *supra* note 65, § 7A.01, at 7A-5 (“[T]here is no Lanham Act exception for the Internet.”).

80. The display would be what is visible to an ordinary person viewing, say, a Web site through a browser. The script would be the code that generates the visible display.

1. Surfers (Hitchhikers) and Mappers (The Index as the Hitchhiker's Guide)

In cyberspace, a *surfer* is an augmented presence, like an adventure traveler and most like a hitchhiker or explorer seeking to navigate in a free manner. A *mapper* is one who indexes, catalogs, and thereby maps the expanse of cyberspace making it useful to a surfer. Surfers come in all varieties of skill, time, interest, and motives. Some are pure wanderers; others are driven by particular objectives. All of them are using cyberspace for access, navigation, information-activity, and augmentation. Mappers also come in different varieties, but every good-faith mapper is supporting the expanding frontier that is cyberspace by enhancing network efficiencies, making access meaningful, and fostering navigation for the goals of information-activity and augmentation. The mapper's use is generally a positive use in high cyberspace. It directly aids the surfer and it would seem to be in the public interest, if the public has an interest, in enhanced cyberspace values.

2. Trappers and Spooferers (Tricksters)

In cyberspace, anyone can place magnets. A *trapper* is one who places magnets in order to draw surfers who (most likely) would not otherwise come.⁸¹ A *spoofer* is one who places magnets in order to get indexed or cataloged as someone other than who they are, or with a relevance not fairly related to what they are. A trapper targets the surfer, while a spoofer targets the mapper. Both trappers and spooferers are characterized by deceit and each of them is acting in ways contrary to network efficiency, making access less useful while impeding navigation, creating noise instead of information, and limiting augmentation by delaying or misdirecting it. The trapper/spoofer's use is generally a negative use in high cyberspace. It interferes with the surfer, and it would seem contrary to the public interest, again assuming the public has an interest in access, navigation, information-activity, augmentation, and trust.

3. Spoilers and Arbitrageurs (Wasters, Rent-Seekers, and Profiteers)

In cyberspace, rent-seeking activity beckons. It is a classic opportunity to cross markets, with apparently risk-free opportunities for arbitrage by selling at a price in excess of cost, where the cost is the low expenditure to register someone else's trademark as an address, and the

81. The trap might be active or passive. See *infra* note 82 and accompanying text.

price is the higher return captured by selling the trademark-laden address back to the owner of the trademark. In addition to such arbitrage, which at least arguably and not entirely implausibly might contribute to economic activity, cyberspace presents the opportunity for waste, as a spoiler may appropriate an address that includes someone else's trademark, and then simply warehouse it or otherwise sit on it (either forever without any monetary return, but for spite or to thwart someone else; or else until the owner takes the initiative to approach the spoiler).

There is yet another type of arbitrage, this being the information-arbitrage of brokers and other information aggregators. An information broker searches for and then sells information and related services to others. In cyberspace and on the Internet, an information broker can plant magnets related to the goods or services about which the broker advises or in which the broker deals either for its own account or for the account of others. When the broker's cyberspace magnets include trademarked designations, then this kind of information arbitrageur becomes involved in a mark-type dispute in cyberspace.

4. Consumers and Competitors (Ordinary People with Fragmented Interests)

Finally, in cyberspace, just as in ordinary space, there are persons who simply want to buy and vendors (including mark proprietors) who just want to sell goods and services of various types. Some of the consumers will have remembered a trademark and will seek to find branded products from the same source, or sponsored by the same person. A consumer who undertakes such a search on the Internet or in cyberspace would expect to encounter trademarks in more or less the same way as in ordinary space. Meanwhile, vendors and their competitors will expect to be able to use trademarks, to find and use other nontrademarked designations, and to be able to use trademarked designations in a manner not likely to cause confusion or to deceive, in more or less the same way as in ordinary space. Generally, mappers support consumers and mark proprietors, but spoofers and trappers oppose them and undermine the expectations of trademark law.

5. Other Factors

In cyberspace, perhaps more than in ordinary space, the same person might simultaneously act in more than one capacity—as surfer and consumer, or as mapper and arbitrageur, trapper and spoiler—and might shift sequentially back and forth, as from surfer to consumer and

back again. The matrix is complicated further in cyberspace because the conduct in question might be invited or uninvited, harmless or predatory, value-adding or free-riding. A surfer might invite a search by invoking a search agent, or a person might be somewhat surprised to have triggered an uninvited response while trying to do something else at a device having cyberspace access.⁸² The action might be a harmless provision of information only, perhaps a distraction but nothing more; or the action might be predatory, taking a person as an augmented presence to a place where an impulse purchase might be expected to occur often enough to reward the pirate. The activity might have been undertaken by a mapper who generally has added value to cyberspace by enhancing access or navigation; or it might have been accomplished by a free-rider who has done nothing to enhance any cyberspace value.

6. Conclusions About the Nature and Place of Use (The Example from Trademark Law)

The nature and place of use considers two factors, one of which is the nature of use. A trademarked expression might be used on the Internet as address, magnet, or mark. It might also be used as a roadblock or detour. In any of those cases, it might be used by a surfer or mapper legitimately to support the values of access, navigation, information-activity, augmentation, and trust. Or the trademarked expression might be used by a trapper or spoofer in a way contrary to these values. It might be used by a spoiler or arbitrageur seeking to waste or to profit from rent-seeking activity. Many times, the trademarked expression might be used by a consumer or competitor expecting trademarks to be more or less the same on the Internet or in cyberspace as in ordinary space. This points directly to a sliding scale of uses and users whose activities range from “strong positive,” to “weak” (or neutral), to “negative” effects on the values of cyberspace.

The new factor: the nature and place of use is an explicitly heuristic solution. It is a rule that works within the constraints of the existing doctrines, against the technological and business background in which the doctrines must be applied, and in light of the capability problems that inhere in the institutional organization of the decisionmakers involved. Three applications are: as part of trademark analysis, as part of the wider context in which trademark law exists, and most importantly as a

82. Based upon the person's current or prior use of the facility or technological agent in question, the interaction between the person and the agent might be “negotiated” or “nonnegotiated” and hence more or less expected or unexpected (hence, active or passive traps).

controlling factor at the level of the remedy both in trademark and in other contexts.

The new factor can be applied at the level of “use” (both proprietor-side use and offending-party-side use).⁸³ So applied, it redresses the under-protection cases.⁸⁴ Instead of searching, perhaps in vain, for an ordinary space analogy to invisible and attenuated uses in cyberspace, the new factor recognizes that the defining characteristics of cyberspace itself permit invisible and attenuated uses and such uses actually draw traffic to a location when incorporated as addresses or as magnets even if not “as” marks. The new factor keeps the concern where it ought to be: on whether the invisible or attenuated activity creates a likelihood of confusion or not. If it *does* create a likelihood of confusion, then it is an offending use, actionable as a trademark violation.⁸⁵ If not, then not. Of course, if the offending conduct is not even at the level of anything that can draw, misdirect, or block traffic, then it is not an offending use of an address, magnet, detour, or roadblock, and the new factor does not impose liability for such conduct.

83. “Use” is employed in at least four different senses: the use by a proprietor that will create trademark rights, a use in interstate commerce sufficient to invoke federal Lanham Act jurisdiction, a use evidenced by a specimen that might be accepted within the Patent and Trademark Office to support a federal trademark registration, and an offending use by a person not authorized by the proprietor and which causes a likelihood of confusion with goods or services of the proprietor. For ease of discussion, I will refer to the first three of these as proprietor-side “use” questions, and the last as the offending-party-side “use” question.

84. When cases rule that an invisible or attenuated use is incapable of infringing a trademark, they “under-protect.” *See, e.g.,* 1-800 Contacts, Inc. v. WhenU.Com, Inc., 414 F.3d 400, 410-12 (2d Cir. 2005), *cert. denied*, 126 S. Ct. 749 (2005) (discussing keyword-based pop-up ads on the Internet, the court held an invisible or attenuated use is not a “use” for purposes of trademark law); *Holiday Inns, Inc. v. 800 Reservation, Inc.*, 86 F.3d 619, 625 (6th Cir. 1996) (addressing vanity phone number equivalent, trapping for a misdialed number is not a “use” for purposes of trademark law, even though predatory in both intent and consequence).

85. This assertion is based on two grounds. First, the “use” required for infringing a mark under the common law and under the federal Lanham Act does not have to rise to the same level of use that would have been sufficient to gain trademark rights and to invoke Lanham Act registration of an asserted mark. *See* *Playboy Enters., Inc. v. Netscape Commc’ns Corp.*, 354 F.3d 1020, 1024 n.11 (9th Cir. 2004) (citing *Planetary Motion, Inc. v. Techsplosion, Inc.*, 261 F.3d 1188, 1194-95 (11th Cir. 2001)). *But see* Uli Widmaier, *Use, Liability, and The Structure of Trademark Law*, 33 HOFSTRA L. REV. 603, 704 (2004) (“[Cases like *Holiday Inns* have] stubbornly insisted upon proof of trademark use of the allegedly infringing mark *by the defendants themselves*. That is the correct viewpoint, and the doctrinal nail in the coffin of the Brookfield/[Netscape] aberration.”). Second, while maintaining that there must still be a likelihood of confusion created by the offending party’s use of the mark in commerce, this Article contends that an invisible or attenuated use is real enough if it produces a tangible effect as an address, magnet, detour, or roadblock that draws, misdirects, or blocks traffic. Such uses not only degrade the cyberspace characteristics of access, navigation, information-activity, augmentation, and trust, but have, in fact, actually diverted customers in cyberspace. *See* sources cited *supra* notes 68-72 (addressing invisible and attenuated uses of marks in space).

The factor can be applied at the level of likelihood of confusion, and also to assess the “nominative” or “descriptive/fair use” defense to a charge of likelihood of confusion. So applied, it rebalances the over-protection cases.⁸⁶ Instead of stretching ordinary principles of trademark law (even when the cases say they are doing no such thing) the new factor recognizes that the nature and place of cyberspace is such that surfers are not likely to be confused by mappers who have placed fair magnets or addresses, including keyword triggers, in space. These are invisible and attenuated uses in high cyberspace, strongly and positively supporting cyberspace values of access, navigation, information-activity, and augmentation. Any initial interest type of metaphor is countered by the reality that there is only an augmented presence at the offending location, and such a presence is not normally precluded from a return to the search mode. Of course, if the offending conduct is by a trapper or spoofer, it is a strongly negative use and one that should lead to a finding of likelihood of confusion. A use by a spoiler or an arbitrageur may, depending on the circumstances, fall at various points in the calculus.

Finally, and perhaps most importantly, the new factor must be applied at the remedy stage to produce flexible relief, a limited and tailored injunction that bears a reasonable relation to the invisible and attenuated offenses that trigger liability in the first place. So applied, it guards against the worst consequences of the inevitable mistakes that will arise in individual cases by ensuring no such mistake will inadvertently wreck cyberspace. The remedy will always be a measured one, and it will be characterized by a reasonable technological accommodation to the mark proprietor—a disclaimer, a forced redirect, or other action that will restore the balance in cyberspace while explicitly recognizing the public interest in access, navigation, information-activity, augmentation, and trust.⁸⁷

C. *Avoiding Pitfalls*

The definition of cyberspace as an objective place avoids the pitfalls that have troubled the law of trademarks in space. Among those are the misuse of simile and metaphor, often obscuring what is really happening in cyberspace, and the overdependence upon micromanagement of

86. When cases rule that an invisible or attenuated use creates a nearly automatic likelihood of confusion or an “initial interest” type of confusion, they “over-protect.” See, e.g., *Brookfield Commc’ns, Inc. v. W. Coast Entm’t Corp.*, 174 F.3d 1036, 1061, 1065-66 (9th Cir. 1999) (discussing domain name and metatags on the Internet); *Netscape*, 354 F.3d at 1031 (addressing keyword-based targeted advertising on the Internet).

87. *eBay Inc. v. MercExchange, L.L.C.*, 126 S. Ct. 1837 (2006).

technological minutiae, amplifying an agency cost problem as applied to judges and other lawyers.

1. Misuse of Simile, Metaphor, and Analogy

One advantage of the nonarbitrary definitions proposed here is that they permit problems in cyberspace to be handled on the basis of what cyberspace *is*, rather than on the basis of what it is *like*.⁸⁸ So an invisible or attenuated use in cyberspace is said to be *like* a billboard by a highway⁸⁹ (except that cyberspace is a jackable matrix, an embodied switched network for moving information traffic, not a highway).⁹⁰

Thinking of cyberspace as it actually *is* yields far richer images than seeing it only dimly through simile or metaphor. Cyberspace *is* an embodied switched network for moving information traffic, further characterized by varying degrees of access, navigation, information-activity, augmentation, and trust. In cyberspace, the user *is* simultaneously in ordinary space and, by an augmented presence also *is* at another location where real words are exchanged in real time with real persons or agents (as on the telephone) and where real text is read, visuals seen, audio heard, and interactive transactions and business actually consummated (as on the Internet). Yet, the user can at any time snap the augmented presence out of its real cyberspace relationship and into another cyberspace relationship, or back to ordinary space.

So, while these real activities in cyberspace are, to some extent, *like* other activities in ordinary space, cyberspace is not just a simile or metaphor. Perhaps someday we can turn the similes on their head and thereby better understand that the reason, say, initial interest confusion caused by a deceptive billboard by a busy interstate highway is so objectionable in ordinary space is precisely because ordinary space is *not*

88. See *supra* notes 18-19, 22-23, 31 and accompanying text (comparing cyberspace to other networks). Though cyberspace is *like* a lot of things, it is not a highway, not a railway, and not the sewer system either, although each of those is a system for moving things.

89. *Brookfield*, 174 F.3d at 1064 (discussing the billboard analogy and initial interest confusion). The billboard simile or analogy supposed a road sign falsely advertising a trademark-branded video store off an upcoming highway exit, but when a customer took the exit and arrived at the store it was prominently identified, not as the branded store but as a competitor's. The prominent and correct identification at the point of purchase dispelled any likelihood of consumer confusion at the point of sale, but the "initial interest confusion" caused by the road sign's use of a trademarked expression might create actionable trademark infringement. So, it was held by analogy, the "initial interest confusion" caused by invisible HTML coded metatags on the Internet must also constitute infringement.

90. In fact, invisible and attenuated uses of magnets and addresses in cyberspace are so very much unlike a billboard by a highway in ordinary space that the reality of "initial interest confusion" is very nearly the opposite of what is suggested by the famous *Brookfield* analogy of the billboard. See sources cited *infra* note 91.

like cyberspace. Trademark infringement liability for initial interest confusion in ordinary space is precisely because ordinary space results in a real, not merely an augmented, presence at the false location.

In ordinary space, and outside of cyberspace, there may be young and restless children in the car, heavy traffic, everyone may be hot and tired, and the proper destination may yet be another several miles down the road. When a false billboard causes the car to pull off the highway early, its occupants just might stay and shop at any place even remotely like the intended destination. They are (in a practical sense) precluded from shopping their intended brand precisely because ordinary space is *not* like the Internet, where the discontented shopper could immediately have snapped an augmented presence out of the incorrect destination with the click of the mouse and into the correct one,⁹¹ or could have started over with little fuss, provided the integrity of cyberspace navigation is not corrupted or hijacked by pirates. In cyberspace, the primary concern is about the integrity of navigation, so the augmented presence can find its way around. It would be nice if the law would either help, or at least not hinder, what is actually going on in cyberspace.

91. In ordinary space, the party affected is not a cybersurfer. In contrast to ordinary space, the cybersurfer can easily snap an augmented presence from place to place, and can thereby jump by augmented presence to his intended destination, normally at the cost of minimal physical effort and time. As commonly understood, the notion of initial interest confusion is based on customer preclusion: actionable harm to the proprietor of the mark occurs if, because of likely confusion prior to the point of sale, the proprietor “may be *precluded* from further consideration by the potential purchaser in reaching his or her buying decision.” 4 J. THOMAS MCCARTHY, MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION § 23.6 (4th ed. 2006) (emphasis added) (citing *HRL Assocs., Inc. v. Weiss Assocs., Inc.*, 12 U.S.P.Q.2d 1819, 1823 (Trademark Trial & App. Bd. 1989), *aff’d on other grounds*, 902 F.2d 1546 (Fed. Cir. 1990)); *cf.* RESTATEMENT (THIRD) UNFAIR COMPETITION § 20 cmt. d (1993). The *Restatement* casts some doubt, perhaps obliquely on the legitimacy of the doctrine by a faint allusion to it: “Several cases suggest that pre-sale confusion of source or association that is likely to harm the commercial interests of the trademark owner is actionable as an infringement even if the confusion is dispelled before the actual purchase [citing the familiar cases].” RESTATEMENT, *supra*.

In any event, the objective characteristics of cyberspace generally make any such initial interest preclusion much less a concern than in ordinary space, and tend to turn the highway billboard analogy on its head. *See e.g.*, *Bihari v. Gross*, 119 F. Supp. 2d 309, 320 n.15 (S.D.N.Y. 2000) (“Use of the highway billboard metaphor is not the best analogy to a metatag on the Internet. The harm caused by a misleading billboard on the highway is difficult to correct. In contrast, on the information superhighway, resuming one’s search for the correct website is relatively simple.”); Zachary Zweihorn, *Searching for Confusion: The Initial Interest Confusion Doctrine and Its Misapplication to Search Engine Sponsored Links*, 91 CORNELL L. REV. 1343, 1357 nn.98 & 100 (2006) (acknowledging that the billboard analogy has been “widely criticized,” and perhaps more so by younger persons “more attuned to how the Internet works”). The criticisms of the billboard simile seem to be instinct with an intuition—not that legal reasoning by analogy is wrong, but that the particular analogy is somehow flawed. One purpose of this Article is to articulate just what it is about “cyberspace” that makes the analogy fail.

As with the billboard, the other similes, metaphors, and analogies are poorer than the objective cyberspace reality they attempt to poeticize.

On the other hand, the augmented presence actually is at the destination site in cyberspace. For those goods or services that are appropriated or able to be appropriated by an augmented presence, the reality of cyberspace might find a fairly clear case of trademark infringement by likelihood of confusion if a surfer/customer is diverted to substitutionary goods by a trapper in space. While there may not be very many goods in that category—no one looking for hardware is going to be satisfied by a picture of a hammer—some of the more common cases on the Internet would be better analyzed in light of the completely consummated transaction that might occur upon delivery of a surfer/consumer, drawn to a substitutionary site by an invisible magnet.⁹²

The point is that cyberspace, while sometimes *like* any number of things, including a highway, actually *is* something.⁹³ It would be better to make law based on reality rather than simile or metaphor, at least where possible.

92. This is why there is a kind of initial interest “preclusion” that can more nearly appropriate a customer in cyberspace, and in which the doctrine might be aptly applied (or in which there is simply a more commonplace likelihood of confusion). The place where cyberspace actually does approach this situation is any type of false location where the user’s augmented presence might actually satisfy the user. *Cf.* *Playboy Enters., Inc. v. Netscape Commc’ns Corp.*, 354 F.3d 1020, 1025-26 (9th Cir. 2004) (leaving a reader to speculate whether there is in fact a greater possibility of satisfaction by an augmented presence at a playboy-type destination, where the goods being offered are visual in nature, than by an augmented presence at a place where gardening tools are sold, and where the tangible goods themselves are sought instead of their pictorial images); *Holiday Inns, Inc., v. 800 Reservation, Inc.*, 86 F.3d 619, 621-22 (6th Cir. 1996) (leaving a reader to speculate whether there is in fact a greater possibility of satisfaction by an augmented presence at a trapping destination that has a sales agent actively present and urging the user immediately to close a transaction, than by an augmented presence at a place where there is no such selling pressure). Where there is infringement by an invisible or augmented presence in cyberspace, the new factor not only determines liability better than any analogy might do, but it also better determines the remedy that is appropriate in cyberspace. In such choice-preclusion cases, the remedy should require a forced redirect/forced release in cyberspace, a mechanism that has no obvious, effective parallel in ordinary space.

93. *Compare* WILLIAM SHAKESPEARE, *HAMLET*, THIRD ACT, sc. 2, ll. 386-390 (Edward Hubier ed., 1963), in which Hamlet speaks of a cloud, which is *like* a number of things: “Hamlet: ‘Do you see yonder cloud that’s almost in the shape of a camel? . . . Methinks it is like a weasel. . . . Or like a whale.’ Polonius: ‘*Very like a whale*’” (emphasis added), *with* HERMAN MELVILLE, *MOBY DICK* (U. Cal. Press 1979) (indicating the white whale, Ahab’s nemesis, though very like many other things actually *is* a whale). A cloud shaped like a whale is still a very different thing from a whale. Likewise, an actual whale is itself very different from whatever else it might symbolize.

2. Overuse of Technology: Agency Costs

With some flair, Professor Bainbridge has applied an agency cost/new institutional economics analysis to decision making in the field of business law and economics.⁹⁴ Similar conditions of “bounded rationality” have equally pervasive implications for any analysis of trademarks in cyberspace.⁹⁵ “If mind is the scarce resource, then economizing on claims against it is plainly warranted.”⁹⁶ An actor can economize on limited cognitive resources in two ways. First, by adopting structures designed to promote more efficient decision making; second, by invoking heuristic problem-solving decision-making processes.⁹⁷

It would seem safe to say that judges have less-than-expert computer and network knowledge. It is probable that most “judges arrive on the bench with little [or no] expertise in [those particular trademark doctrines most related to invisible or attenuated uses in cyberspace] and, moreover, have little incentive to develop substantial institutional expertise in this area after they arrive.”⁹⁸ “Because the legal, [technological,] and business issues are complex, and because judges are as subject as anyone to the cognitive limitations implied by bounded rationality, they have an incentive to duck these cases,”⁹⁹ or else to work diligently, only to get everything wrong at the end of all their painstaking labors anyhow.

94. STEPHEN M. BAINBRIDGE, CORPORATION LAW AND ECONOMICS 24-25 (2002). The author of this Article is unable to improve upon Professor Bainbridge’s concepts or phrasing. Minor adjustments aside in order to adapt the discussion, *mutatis mutandi*, to trademark law in cyberspace, the following paragraphs might as well be enclosed by quotation marks (except, of course, for any errors, and those are attributable to the author of this Article).

95. *Id.*

96. *Id.* at 25 n.18 (quoting OLIVER WILLIAMSON, THE ECONOMIC INSTITUTIONS OF CAPITALISM 46 (1985)).

97. *See id.* at 255. But it is not an optimal solution to adapt a heuristic, or to reason by analogy or metaphor, unless the decisionmaker knows the subject matter or has a good first principle: in cyberspace, unguided intuition often will not do. *See* sources cited *supra* notes 91-92 (citing criticisms of the billboard analogy in *Brookfield Commc’ns, Inc. v. W. Coast Entm’t Corp.*, 174 F.3d 1036 (9th Cir. 1999)). Both the underprotection line of cases, *see supra* note 84 and accompanying text, and the overprotection line of cases, *see supra* note 86 and accompanying text, are illustrations of attempted heuristic problem solving, but each is suboptimal for failure sufficiently to address the objective characteristics of cyberspace. They have the virtue of ease of application, but at the cost of simultaneously leading to wrong results in particular cases while almost casually distorting the law of trademarks in doing so. A bad heuristic introduces a systemic juridical risk into the balance, preventing lawyers or their clients from reallocating resources in a more efficient manner.

98. BAINBRIDGE, *supra* note 94, at 255 n.13 (changing Professor Bainbridge’s references from business law and economics to trademark law and technology).

99. *Id.*

Under such conditions, judges should be expected to “shirk—i.e., look for ways of deciding cases with minimal effort. One well-established way of doing so is to invoke shortcuts—heuristic problem-solving decision making processes.”¹⁰⁰ Confronted with cyberspace cases, judges are both time- and resource-constrained. They decide such cases only episodically, and it is not “rational for them to devote [the] effort to mastering both [trademark] doctrine and the [technological] environment in which the doctrine works.”¹⁰¹

What is true of judges may also be true of lawyers generally. The desired solution to legal conflicts in cyberspace must provide a structure and a set of default rules that will solve the capability problem explained by institutional economics: judges (and lawyers generally) are not, and probably ought not to become electrical engineers, and yet they must resolve trademark and other legal disputes in cyberspace. The solution is a recognizably legal approach that does not depend upon the technology *du jour*, but might endure regardless of new technological uses, at least as to the specifics of the technology. Generally, it is important on the Internet and in cyberspace to understand the nature of the domain and the kind of dispute typically arising among the characteristic users there. The new factor divides the fanciful from the real. It avoids the problem with analogies that break down, replacing them with a healthy realism. It rejoins the authority of judicial decisionmakers with sufficient competence and with capability appropriate for such decisionmakers.

V. CONCLUSION

A. *The Solution: Nature and Place of Use, the Trademark Example*

Invisible and attenuated users create mark-type conflicts in an objective cyberspace because actors can place markers as invisible addresses and magnets in space, and others can index or key those markers so yet others can find them. Some users thereby enhance the very values that enable cyberspace by making it navigable. But other users can spoof or trap, waste or spoil, by using invisible markers in space as roadblocks or detours. Current law is unable to deal with invisible and attenuated uses of expressions in cyberspace because it has no tool by which legal decisionmakers can distinguish fair from unfair competition in space, and no rule or rubric by which ordinary trademark law can be extended and applied to the characteristic conflicts of marks in space in a way that is principled, practical, or predictable.

100. *See id.* at 255.

101. *See id.*

This Article has not only outlined a solution to the problem of invisible and attenuated users and conflicts of marks in space, it has also suggested how to specify and operationalize it. The solution is a new factor, the nature and place of use. The factor is specified in a way that is at once realistic and practical, and does not require special technological expertise. The new factor is robust enough and sufficiently self-modifying to recognize and to adapt to those new technological uses that really do make a difference.

This Article has outlined the proposed new factor in the context of a specific field of law. This approach can handle the trademark-type cases, and it can overcome the institutional capability problem inherent in new technological uses of markers in cyberspace.

*B. Antepenultimate Remarks in Support of the Hitchhiker's Guide to Cyberspace*¹⁰²

The solution to invisible and attenuated uses of addresses and magnets in cyberspace is to afford them an additional, explicit factor for analysis. But the approach proposed by this Article is not just a solution that provides a new factor. It is a solution to invisible and attenuated uses of magnets and addresses in cyberspace that actually solves the problem by channeling activity in the least intrusive manner. The remedy is to require a reasonable technological solution to attenuated and invisible uses of marks in cyberspace, while leaving intact the ordinary principles of trademark law.

What does this mean? It means there is, at last, a remedy that is not only flexible, but also an extension of recognizable principles of trademark law. What else does this mean? It means that, if a surfer conducts a search on a trademarked expression, the provider can be required to make a technologically reasonable accommodation to the mark proprietor—a flagged message to the surfer: “You have entered a term that is the registered trademark of [X], do you want to find [X] or do you want to continue with a broader search?” It means that, if a surfer triggers a targeted ad keyed to a trademarked expression, the provider and the advertiser can be required to make a technologically reasonable accommodation to the mark proprietor—a conspicuously displayed notice or a disclaimer with a redirect button to send the surfer to the mark proprietor, if the surfer desires to go there (or perhaps to return a list with the trademark proprietor at the first place in the list). But it does no more than that, and cyberspace may continue to grow without being dominated

102. See sources cited *infra* note 104.

by an inappropriate application of the current trademark cases, misapplied to attenuated and invisible uses in cyberspace and contrary to the public interest in robust access to information.¹⁰³

This Article has clarified the problem by identifying the target at which the law ought to be aiming. The Internet is only a gateway to cyberspace, and cyberspace is further characterized by varying degrees of access, navigation, information-activity, and augmentation (and trust)—law ought to support the values of cyberspace, if it can do so without disrupting other settled rules and values. Mark-type conflicts occur in cyberspace because designations can be used there somewhat unconventionally as address, magnet, and/or mark (or as a detour or roadblock). The invisible or attenuated uses of trademarked expressions can be made by invited or uninvited, harmless or predatory, value-adding or free-riding surfers and mappers, trappers and spoofers, spoilers or arbitrageurs, as well as by consumers and competitors (and persons who are simultaneously acting in more than one capacity). Because legal decisionmakers are institutionally constrained from becoming familiar enough with current trademark doctrines or the complex technological and practical background upon which those doctrines turn in cyberspace, decisionmakers can no longer reliably proceed on an ad hoc basis, but they need a new rule of thumb, a heuristic, to solve these conflicts.

In short, the key use in cyberspace is indexing, cataloging, and mapping by placing or exploiting invisible or attenuated magnets or marks in space as an aid to a surfer's enjoyment of access, navigation, information gathering, and augmentation. This creation of a widely available directory or search engine, a kind of Hitchhiker's Guide to cyberspace, is among the most positive, value-enhancing activities in cyberspace.¹⁰⁴ And the most important test case on the current horizon is whether (and if so, under what rationale) trademark law will permit an

103. This would appear to be just the sort of balancing of all the injunctive relief factors that the Supreme Court recently reaffirmed in the context of patent law. See *eBay, Inc. v. MercExchange*, 126 S. Ct. 1837, 1839-41 (2006).

104. Cf. DOUGLAS ADAMS, A HITCHHIKER'S GUIDE TO THE GALAXY 2-3 (1980) ("The Hitchhiker's Guide is . . . [a] handy electronic reference book, its chief selling points are the words 'Don't Panic' written in large friendly letters on the cover, and the fact it is cheaper than its closest competitor."). Metcalfe's law (that the value of a network is proportional to the square of the number of users of it) suggests the paradoxical corollary that the most valuable network must become utterly worthless as the number of users becomes so incalculably large that it is impossible to find any of them. The Hitchhiker's Guide is the key to making the most valuable embodied network of all, cyberspace, work. It would be an oddly unfortunate thing were the law to kill the Hitchhiker's Guide by accident. For Metcalfe's law (and various suggested revisions to it), see Wikipedia, *Metcalfe's Law*, http://en.wikipedia.org/wiki/Metcalfe's_law (as of Jan. 10, 2007, 15:00 GMT).

indexer or mapper to recover costs and to make a profit by selling targeted advertising. Right now Google is in the crosshairs.¹⁰⁵ The new paradigm permits such use and makes it pay, by allowing the conduct to take place, but subject to a reasonable technological accommodation in favor of the mark proprietor.

C. The Solution: Nature and Place of Use, Extended

The approach of this Article can be extended. Within trademark law there is an opportunity to develop the details suggested by the rough outline provided in this Article. Beyond trademark, there is much that could be applied to copyright in cyberspace and much that could be said about copyright fair use, especially in respect of the “Google Book Search” library project.¹⁰⁶ This approach can also be extended to other commercial implications of cyberspace, including contract law, personal jurisdiction, choice of law, and other conflicts in space. The reason this approach is more broadly applicable is that it explicitly addresses the nature and place in which legal issues arise on the other side of the gateway leading into cyberspace. Sometimes there is no particular need for any modification to existing law, but sometimes there is a pressing need—the current approaches cannot tell the difference. This one can. Once “in” cyberspace, there is a need to address the policies, purposes, or rationale of the particular cyberspace use in question against those of

105. See *Google, Inc. v. Am. Blind & Wallpaper Factory, Inc.*, 74 U.S.P.Q.2d 1385, 1391-93 (N.D. Cal. 2005) (indicating that in the shadow of *Netscape*, the district court refrained from granting summary judgment for Google in respect of keyword-triggered advertising: Google reports that ninety-six percent of its net revenues in the first quarter of 2004 were derived from advertising). Of course, while this Article strongly supports indexing activities of the kind conducted by Google because those activities produce search engines and directories, this Article carries no brief for Google itself. More properly, the text might read “Google—or whoever supplants or competes with Google, and needs (or wants) targeted advertising to pay for its activities—is in the cross hairs.” If, in fact the cost of the “pipeline” goes up even a fraction of the amount predicted, the ability of the user to pay should decline, and the desire for sponsored advertising should become stronger. See generally Amol Sharma & Dionne Searay, *Cell Carriers to Web Customers: Use Us, But Not Too Much*, WALL ST. J., May 11, 2006, at 31 (suggesting predictions of bandwidth volume demands increasing, and projected costs going up in relation).

106. “Google Book Search” is “a tool from Google that searches the full text of books that Google scans and stores in its digital database.” See Wikipedia, *Google Book Search*, http://en.wikipedia.org/wiki/Google_Book_Search (as of Jan. 10, 2007, 15:00 GMT). It is reported that Google Book Search “remains controversial.” *Id.* And, “[w]hile many hail the initiative for its potential to offer unprecedented access to what may become the largest online corpus of human knowledge, the publishing industry and writers’ groups have criticized the project as a copyright infringement.” *Id.* It is reported that “the Authors Guild of America and Association of American Publishers have individually sued Google, citing ‘massive copyright infringement.’” *Id.*; see also Complaint at 2, *The Authors Guild v. Google, Inc.*, 2006 WL 1749512 (S.D.N.Y. 2006) (No. 05CV08136). The definition of cyberspace and its values, as proposed by this Article, could help to resolve the questions of copyright fair use.

the underlying “ordinary” law otherwise applicable—the current approaches cannot do so in any practicable and consistent manner. This one can. Because it can, and because there is no other such approach on the table, the solution proposed by this Article should be so extended.

This Article suggests that an objective definition of cyberspace, adapted to the problems in any particular field of law, including trademark, contract, copyright, personal jurisdiction, and choice of law, can produce a workable new factor for legal analysis. By providing an analysis that is realistically related to the invisible, attenuated, or other harms that gave rise to it, the new factor can unify and reconcile relevant related law, private ordering, and social norms. It creates a tool that can solve the problem of disputes in space while guarding against doctrinal creep and other misapplications of the law. It is a realistic and recognizably law-based solution to the problem of conflicts in space that appeals to the sense of lawyers who can use it, judges who can apply it, and to the public at large who are the ultimate consumers of a rule of law because it is understandable and consistent with the shared values of cyberspace.

D. Concluding Postscript: New Law for New Technology?

In a few words, new law should be created for new technology only when needed. In a few more words, it might be needed if there really is a new technology that produces new or significantly transformed relationships and then only if existing law threatens either to destroy the enjoyment of the new technology (assuming that the new technology is not otherwise condemned to death), or to disfigure itself (assuming that the existing law is not otherwise defaced).

Some additional considerations, then, would include asking about new technology and old containers,¹⁰⁷ looking back at what happened with the railroad and the automobile, and seriously considering the null hypothesis that there really is nothing new under the sun that cannot be handled by existing and ancient forms of law. And it would include asking whether there is a systemic juridical risk, or only a nonsystemic (or case-specific) risk, and if there is a systemic risk, then why? If there is a capability problem, and if it can be handled by heuristic rules (that is,

107. Compare SCHECHTER & THOMAS, *supra* note 25, at 788 (analogizing trademark disputes arising from the use of trademarks on the Internet as old wine in new bottles), with *Matthew 9:17* (arguing that one cannot keep new wine in old wine skins, but must put “new wine in new wine skins” because new wine continues to ferment, creating pressures that will burst an older wine skin that has already been stretched to its limit by previous use).

by rules of thumb that can be readily applied without undue harm, especially systemic harm), then they should be handled that way.

Such an inquiry is not really about technology. It is instead about the changed relationships and capabilities (augmentations), if any, that technology enables, fosters, or creates. Moreover, it is generally about the phenomena that occur because of the technology rather than mere curiosity about the technology itself. Where the phenomena drive new relationships, and hence new uses, then there is an occasion for rethinking existing legal relationships. The expression “new technological uses” therefore is best considered in terms of the place and nature of the *use*, much more than in terms of the technology that happens to enable a distinctively different set of phenomena. When the nature and place of use change, it is time to consider new law.

And we should ask whether there ever was (or should have been) a law of the elevator, or of the automobile, or of the railroad without spoiling zoning law, agency law, and tort law. In a thought experiment that exceeds the scope of this Article, one might trace the possible connection between the new technological uses and the law: from elevators enabling tall buildings to zoning that has become unrecognizable; from automobiles driven by drivers who borrowed the car but carry no insurance to agency law that has become unrecognizable; from railroad workers who lose limbs with no prospect of recovery to tort law that has become unrecognizable.¹⁰⁸ And, in a similar way, we should ask whether there is any reason for a law of “cyberspace.” This Article answers “not yet” at least as to trademark because it is still possible to solve the problems of marks in space in such a way as to permit indexing, cataloging, and mapping to take place, and to make such activity pay without damaging trademark law.

If there is to be a new law, whence might it come? The sources are existing law (what is: fiat), what ought to be (what can reasonably be done with existing law), and what has been done in the past as a limitation on what realistically can be done in the future (the constraints

108. Perhaps there *should* have been a “law of the steam engine” if only to preserve the rest of the law inviolate. Cf. Sommer, *supra* note 25, at 1146. Pressed by the carnage to railway workers, and yet not creating any special rules for, say brakemen on the railroads, tort law evolved from a fellow servant rule, coupled with assumption of the risk and contributory fault as bars to recovery; to a comparative fault assessment; to the point where (so it seems) all rules are lost and you sell me a pencil, I stick it in my eye, I sue you for negligence, and with a lucky jury I recover a king’s ransom. No doubt all this is bad history, bad law, and exaggerated, but it at least raises the question whether special rules for special problems might sometimes be better handled explicitly as special innovations and *not* presented as ordinary applications of old law to new situations and new technology. Doctrinal creep is not confined to trademark law, but is endemic and is widespread throughout the law.

of historical norms). Moreover, it ought to come as a result of deliberate thought, not accident.

If existing law is to be applied, it may need to be adapted or transformed. One kind of adaptation is suggested by this Article. A judge who deliberately adapts existing law to the new realities can intentionally design law to regulate what ought to be regulated, but in a manner that is reasonable in relation both to the new relationships created by the new technology and to the fabric of the law itself. Another kind of adaptation seems to be manifest in some of the leading cases. It is a more or less accidental process influenced by chance and time. The law can change either purposefully or by accident. Intelligent design of the law ought to be preferred to evolutionary accident. In all events, explicit factors are superior to implicit factors, at least as long as legal opinions are measured against a standard of correct result, for the right reasons, persuasively explained.¹⁰⁹ Given the constraints of page limitations in briefs (and in law review articles), and the speed with which a reader must make a decision to read or not to read anything, and the difficulty of maintaining or creating a coherent synthesis in an era famous for independent, idiosyncratic, diverse, and nomophobic¹¹⁰ thought, it may be time to reconsider the reemployment of something like a Brandeis Brief for the new millennium.

Law ought to support the values of cyberspace, if it can do so without disrupting other settled rules and values. This Article proposes to separate “cyberspace” from any particular technology so that it is not dependent upon any accidental manifestation. The general characteristics of cyberspace may then be better recognized and articulated, independently of any specific technology. By first pausing to define cyberspace and its values before rushing in to do its work, the law is more likely purposefully to preserve rather than accidentally to destroy the good of cyberspace. At the same time, the law may also avoid disfiguring or contorting itself as it strives to adapt to cyberspace. Incidentally, the law might actually do some good at the same time.¹¹¹ By

109. A high-quality opinion is one that “reaches the correct result for the right reasons in a manner that is persuasive and well-written.” The Academy, 20 Questions for Howard Bashman (May 6, 2003), http://theacademy.blogspot.com/2003_05_04_theacademy_archive.html.

110. Coining a word from the Greek, rendering *nomos* as law and *phobia* as an unreasonable fear. See HENRY GEORGE LIDDELL & ROBERT SCOTT, AN INTERMEDIATE GREEK-ENGLISH LEXICON 55, 867 (1985) (defining “nomos” as “anything assigned; a usage, custom, law or ordinance”; “phob-” as “to strike with fear; to terrify, frighten, alarm”).

111. Medical doctors, or some of them, have promised to do good and also to do no harm. One version of the Hippocratic Oath states, “I swear . . . by all the gods and goddesses that I may keep this Oath and Promise to the best of my ability and judgment Whenever I go into a house, I will go to help the sick and never with the intention of doing harm or injury.”

recognizing an objective cyberspace with real characteristics and values, the law can avoid the pitfalls of a virtual reality while enhancing the real virtues of cyberspace.

HIPPOCRATES, *HIPPOCRATIC WRITINGS* 67 (G.E.R. Lloyd ed., J. Chadwick & W.N. Mann trans., Penguin Books 1978) (1950). If this last promise, to do no harm, is a low aspiration, perhaps it is at least one at which the law ought to aim, perhaps occasionally to hit. Modern moral realism asserts that the good is itself a proper object of the law, neither totem nor taboo in polite legal discourse.